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THE GERONTOLOGICAL SOCIETY OF AMERICA

AGING CHINA:
Family, Economics, and Government Policies in Transition

RESEARCH, PRACTICE AND EDUCATION IN AGING
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AGING CHINA: Family, Economics, and Government Policies in Transition

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&

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(editors)

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PREFACE

This book grows out of a momentous social experiment currently being carried out in China. A major family planning program was undertaken in 1978 and significantly expanded by the National Birth Planning Law of 1979-80 that promulgated the goal of a "one-child family." Implementation of this law presents Chinese families with a sudden and dramatic change in the nature of their reliance on children in the future for support in old age. Also, the rapid aging of the population that is projected will challenge the Chinese government to undertake extensive planning for the altered demand in goods, services, and living arrangements that inevitably will accompany the large demographic shifts that will occur. And finally, the Chinese government also recognizes that the actual long-term success of their new population policies depends in part on the rapid expansion of new collective mechanisms to supplement the traditional family supports provided to the elderly.

In recent years, therefore, there has been increasing official recognition by the Chinese government of gerontological issues and the need to do research and planning in this area. To this end, the government recently established the China National Committee on Aging (CNCA) under the chairmanship of former labor minister, Mr. Yu Guanhan (Mr. Yu is now retired and the current chairman is Mr. Wang Zhaohua). This committee, located in Beijing, has formal responsibility for coordinating many of China's gerontological activities at the national level.

In 1983, an official delegation from China visited the United States -- meeting and visiting with American educators, government officials, and the heads of various private organizations, including The Gerontological Society of America (GSA). On behalf of the GSA, Professor James Schulz prepared and presented to the delegation a proposal calling for a joint conference to be sponsored by GSA and CNCA. This proposal was taken back to China by the visiting delegation for review by higher Chinese officials. Professor Gordon Streib, on behalf of the Society, then met with officials in Beijing to discuss further details of the conference. And finally, in a letter dated March 8, 1984, Chairman Yu Guanghan notified GSA that the CNCA was willing to co-sponsor the proposed international aging meeting. In that letter the Chairman also extended an invitation from the CNCA and the Chinese government for the meeting to be held in Beijing. And Professor Schulz then traveled to Beijing in the spring of 1985 for final planning discussions.

The conference, called the "International Forum on Aging," took place on May 20-23, 1986 at the Exchange Center on Economics and trade, Beijing. Participation included scholars from six countries, Hong Kong, and various international organizations.

The conference (the first gerontological meeting of its kind in a developing country) focused on the relationships between long-term demographic change, population planning, the family, and collective mechanisms for providing economic and health support in old age. As nations industrialize, family support roles are usually complemented by new economic/welfare programs developed and administered by the state or employers. Often these developments result in changes that affect the willingness and the ability of children to provide support and older adults' willingness to turn to children in times of need. In many countries both children and parents have welcomed this new finanical independence, while maintaining the wide range of other traditional family relationships and supports.

Collective mechanisms -- such as social security, national health programs, and provident funds -- have played growing income and health support roles in various countries, especially those that are industrialized. These mechanisms are currently under financial strain in many industrial countries. And efforts in developing countries are limited not only by financial resources but also by scarce administrative and infrastructure capacities.

Extensive research is underway in both developed and developing countries seeking to better understand the impact of and the interrelationships between family support and various collective mechanisms. The papers prepared for the Beijing conference review and assess much of the research that has been done thus far, contribute new insights and data, and help to sharpen the policy discussions that lie ahead for developing countries around the world.

For this volume, the order of papers has been changed from the original conference order. We have also shortened some of the papers where parts of them duplicated closely the materials already presented in a prior paper. The Chinese papers were translated into English by Mr. Yi-min Lin and Dr. Deborah Davis-Friedmann.

We tried to keep the editing of the papers to a minimum with regard to presentation style. As a result, there are differences among papers in English versus American spelling, section numbering and headings, the way references are cited in the text, the citation style used in the bibliographies, and footnotes/endnotes.

We express our appreciation to the National Institute on Aging, U.S. National Institutes of Health for the financial support that made the conference possible. Also, our thanks to the members and staffs of The Gerontological Society of America and the China National Committee on Aging for their support in this important activity. At Brandeis University, Margaret Stubbs and Ruth Scalon provided invaluable assistance during the conference planning process and in preparation of the book manuscript.

James H. Schulz
Waltham, Massachusetts

Deborah Davis-Friedmann
New Haven, Connecticut

PART I

OPENING SESSION

WELCOMING ADDRESS

Zhou Gucheng
Vice Chairman of the Standing Committee of the China National People's Congress

Ladies and Gentlemen, Friends, and Comrades:

Allow me, first of all, to extend warm congratulations on the convocation of this International Forum on Aging. I wish to express a hearty welcome to the scholars and experts, as well as to other guests from distant lands.

This International Forum on Aging, co-sponsored by The China National Committee on Aging and The Gerontological Society of America, and supported by and featuring scholars and experts from Japan, Thailand, Canada, and Australia -- as well as from Hong Kong -- provides a good opportunity for these scholars and experts of the Asian-Pacific region to exchange experiences in coping with aging and to share academic achievements in this field. We believe that these exchanges will further improve mutual understanding and friendly cooperation. That is why the Chinese government firmly supports the convocation of this international forum and heartily wishes this conference a complete success.

There is a saying in ancient China that few people have lived to age 70 since time immemorial. Before the founding of new China, the average life expectancy for China was only 35. Since the birth of the People's Republic of China -- thanks to the steady development of our national economy, as well as to the progressive improvement of living standard -- the average life expectancy of the Chinese people has surpassed the level before liberation. The Third National Population Census in 1982 indicates that life expectancy for men is now about 66.43, while life expectancy for women is 69.35. (Overall the average is 67.9.) Five million people are age 80 and over; 3,851 are centenarians.

Now popular among the people is the saying: "60 is only a younger brother; 70 is legion; 80 and 90 can be seen everywhere; centenarians are not rare." With further social and economic development and scientific and cultural progress, as well as the continuing betterment of our people's livelihood, the life expectancy of the Chinese people will be extended further, and the people will enjoy even better health and greater longevity.

Ladies and gentlemen, respecting, loving, and supporting the elderly is a fine tradition of the Chinese nation. This tradition has been further promoted since the founding of new China and has become a major content of the "socialist spiritual civilization." It is guaranteed by laws and institutions. The elderly are honored and beloved in society and are respected and cared for in families. The Chinese Constitution and marriage laws stipulate that the state has obligations to provide the elderly with material assistance, and children are duty bound to support their parents. Retired employees in urban areas enjoy pensions in accordance with the Labor Insurance Regulations. In rural areas, elderly peasants in some rich places have also started to enjoy old age pensions, while the majority of them are supported by their families. The elderly without children or relatives, in urban as well as rural areas, are housed in Homes for the Aged or the welfare institutions run by the state or collective units, or they are covered by the so-called "Five Guarantee System," which guarantees that living standards will not be below that of the ordinary people in the cities or the countryside. The urban retired employees continue to enjoy free medical care, while the elderly peasants are covered by cooperative medical care or the "Five Guarantees System." With the further reform of our economic structure our country is considering the establishment of a social security system that is adapted to Chinese realities. Our goal is to place retirement, support, and medical care for the urban, as well as rural elderly, on a more rational basis.

Our major task now is to take into consideration the characteristics of the elderly, to meet their special needs, and to bring into play their remaining warmth. We want to see that the elderly are provided for financially, occupied in some way, cared for medically, offered channels for learning new things, and provided access to recreational facilities.

As the number of elderly is increasing and the population is aging, it becomes a matter of paramount importance to forecast demographic trends and the major impact these changes will have on socio-economic development. By doing this, we will be able to put forward and implement appropriate policy measures as early as possible.

In order to put the work on aging on a scientific basis, the Gerontological Society of China has recently been established. This marks the beginning of a new era in scientific research about the elderly in our country. To us Chinese, work on aging is a new field where much can be accomplished.

We hope that this conference will give new impetus to our work on aging, as well as to scientific research in gerontology. And we hope that it will enable us to make our due contribution to the cause of the aged in Asian and the Pacific region, as well as in other regions.

So much for today.

I wish the conference a success!

Thank you.

THE OPENING OF THE CONFERENCE

Yu Guanghan
Chairman, China National Committee on Aging

Ladies and Gentlemen, Friends, and Comrades:

The International Forum on Aging, co-sponsored by The China National Committee on Aging (CNCA) and The Gerontological Society of America (GSA), is declared open in Beijing, the capital of China.

Participating in this forum are scholars and experts from China, the United States of America, Japan, Thailand, Canada, Australia, as well as from Hong Kong and the International Association of Social Security. More than 30 foreign experts are participating.

Also present today are Chinese state leaders -- including Mr. Zhou Gucheng and Ms. Lei Jieqong -- leading officials of ministries concerned with aging, the Resident Representative in Beijing of the UN Fund for Population Activities, and representatives of the media in Beijing. The total number of such participants (for the opening session) is 150.

The aim of this forum, agreed on earlier by CNCA and GSA, is as follows: (a) to promote an academic exchange on aging issues, (b) to foster mutual learning by the participants, and (c) to strengthen the ties and contacts amoung researchers in different countries, as well as to promote friendship. Any academic views are welcome as we seek common ground while reserving our difference. With this spirit and the joint efforts of the participants, we believe that this forum will certainly achieve the expected objectives.

Now, on behalf of CNCA, allow me to extend hearty congratulations for the convocation of this forum, a warm welcome to the scholars and experts coming from other countries and regions and to the Resident Representative in Beijing of UNFPA. We also express a warm welcome and hearty thanks to the state leaders, to leading officials of the ministries, and to the press media.

Aging is one of the major social problems of universal concern. Population aging is an inevitable outcome of the social, economic, scientific, and cultural development of mankind. It embodies an objective law which is independent of man's will. Some developed countries in Europe and America, as well as Japan in Asia, have already become (in demographic terms) "aging ones," while in the developing countries the proportion of the elderly is smaller, but the absolute number is increasing rapidly.

The United Nations has attached much importance to the aging issue. As early as 1973, it adopted a resolution on aging and the elderly. Since 1977, the UN Assemblies have discussed the aging issue annually. In July, 1982, the World Assembly on Aging was held in Vienna. The "International Program of Action on Aging" was adopted at that assembly. The United Nations approved that Program in its 37/51 resolution and asked member states to establish state level working institutions on aging and to start activities in accordance with the Program. The World Assembly was an international conference of profound historic significance -- one which has greatly stimulated the work on aging in China.

The aging issue, though a social problem, involves many areas of study -- such as politics, society, economics, culture and education, medical care and health, and social security. Viewed from the viewpoint of academic research, it covers many sciences, and as far as administration is concerned, it affects many departments. Hence, in order to better deal with the aging issue, there should be multi-department and multi-tiered joint efforts to do scientific research and work out comprehensive measures. In the meantime, international contacts and cooperation should be strengthened.

China is a developing socialist country, with a large population and an elderly population that exceeds any other country in the world. Currently there are 85 million persons aged 60 and over, accounting for 8.2 percent of the total population. According to demographic projections, in the year 2000 the number of persons age 60 and over will climb to 130 million -- accounting for 11 percent of the total population. By 2025, the numbers will be 280 million and 20 percent, respectively. Since the aged in both absolute and relative numbers are increasing rapidly, China will grow into an aging country by the end of this century. Hence, our government has become very interested in the aged population and aging issues.

China has the traditional virtue of respecting, loving, and supporting the aged. In the 36 years since the founding of the People's Republic of China, we have devoted much of our efforts to seeing that the elderly are adequately provided for, occupied in some way, offered opportunities to learn things new, cared for medically, and provided access to recreational facilities. Currently 26 provinces, autonomous regions, and municipalities have established permanent institutions on aging, and increasing concern is being shown on the aging issue from all walks of life throughout the country. Gerontological scientific research is highly valued in academic circles. In April 1986, a national seminar on gerontology was held. This seminar further strengthened our work on aging and provided a scientific basis for developing guidelines and policies for the future. Finally the Gerontological Society of China has been set up.

We hope that the International Forum on Aging will give further support to our work and research on aging and enable us to incorporate the experiences learned both from developed and developing countries and regions. At the same time, let us strengthen mutual understanding, learn from one another, establish intimate links, and promote friendship and cooperation in our future activities, so as to make appropriate contributions to our common cause -- aging.

Finally, I wish the forum success!

Thank you.

OPENING GREETINGS

M. POWELL LAWTON

President, The Gerontological Society of America* and Director of Behavioral Research, Philadelphia Geriatric Center

Distinguished scientists and policymakers from many different countries: I wish to express the gratitude of The Gerontological Society of America to the China National Committee on Aging for its gracious sponsorship of this first meeting of our respective national groups of gerontologists. While our countries have different situations surrounding older people in our societies, we both have experienced an unprecedented growth in the proportion of older people. There is a clear expectation that the number will continue to increase, particularly the number who will need assistance from both the family and more formal or governmental support systems. It is a spirit of optimistic problem-solving that brings us together, with the hope that this occasion will be only the first in a series of meetings designed for us to learn from one another.

Before beginning our scientific business I should like to say a word about the organization of which I am president, The Gerontological Society of America. This organization's purpose is to foster the growth of research, education, and practice in aging and to foster the use of multidisciplinary scientifically-based knowledge in the development of policy, planning, and services for older people. The Society presently has 6000 members, publishes two journals, sponsors an annual meeting, and seeks other opportunities to disseminate knowledge about the biological, medical, psychological, and social aspects of aging.

Finally let me acknowledge our appreciation of the efforts of Chairman Yu Guanghan, Vice-chairman Wei Hengcang, and Secretary General Wu Yuanjin of the China National Committee on Aging, Dr. James Schulz of The Gerontological Society of America, and the National Institute on Aging of the United States government for their major contributions toward making this meeting possible.

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* November, 1985 to November, 1986

BRIEFING ON THE PREPARATORY WORK FOR THE FORUM

Wu Yuanjin
Secretary-General of the China National Committee on Aging

Ladies and Gentlemen, Friends, and Comrades:

Today, The International Forum on Aging is formally declared open here in Beijing. Please allow me to now brief you on the preparatory work and other matters related to the conference.

This International Forum on Aging is co-sponsored by The China National Committee on Aging (CNCA) and The Gerontological Society of America (GSA). It was originally scheduled to take place in 1985. However, a variety of considerations and complications forced us to postpone the conference until May of this year (1986).

The main topics of this forum were decided upon jointly by both CNCA and GSA, after consulting with the scholars and experts concerned. The conference focuses on (a) shifts in population structure, (b) the interrelationship between population aging and socio-economic development and policies to cope with the changes, and (c) ways to support and provide services to the elderly -- utilizing the government, the community, and the family.

The papers presented at this forum are 24 in number, exploring the issues of aging from various angles with a view to solving problems in connection with the above-mentioned topics. Participating in this forum are 12 Chinese scholars and experts and 12 Americans. Scholars and experts from Australia, Canada, Japan, Thailand, as well as Hong Kong, were also invited -- each country or region having one scholar represented. The International Association of Social Security was also invited to send an observer. The participants (from outside China) are 33 persons in all.

This conference will last 4 days: The opening and closing session take half a day each; two days are planned for paper contributors to make summary observations and for discussion; one day is reserved for individual and private discussions and activities.

Finally on behalf of CNCA, I would like to extend our hearty thanks to the U.S. National Institute on Aging for the financial assistance provided to the conference. We are also deeply indebted to the GSA and to Professor James Schulz, both for the herculean efforts they made in planning this conference and their friendly cooperation.

I wish the conference complete success!

I wish you a happy stay here!

THE CONFERENCE PLANNING PROCESS

James H. Schulz
Kirstein Professor of Aging Policy, Brandeis University, USA*

Conference Chairman Yu, Vice Conference Chairman Wei, Honored Guests, and Distinguished Delegates:

We have worked for many years planning this conference. As one of the organizers, I can tell you the task was difficult; we had to work hard to make this conference a success. The difficulties arose because of time and the thousands of kilometers that separate the many countries represented here. But a spirit of good-will and co-operation has been with us every step of the way.

Even before the conference discussions begin, we know this conference will be a great success. We know this because, first, it has the full support of the Chinese government; second, the delegates to this conference from China and abroad are leading scholars on the questions to be discussed; and, finally, the papers these scholars have written provide important new information and insights.

Professor Deborah Davis-Friedmann has worked with me diligently to make this conference a success. But more importantly, we are pleased to have her here with us, since she is the first and most distinguished scholar in America to study the post-war elderly in China and the changing Chinese family.

Professors Wongsith of Thailand and Hashimoto of Japan are currently directing major research projects studying aging in various developing countries. Professor Chow from Hong Kong has made important contributions to social gerontology through his comparative studies of the aging in Asia. Professors Cantor and Liang bring to this conference their insights from many years of research concerning the aged in the United States. And finally, Professor Dixon from Australia, Professor Myles from Canada, and Professors Holden and Petri from the United States are well-known for their important research in the area of social security.

The Gerontological Society of America is proud and honored to be able to co-sponsor this international conference. We of The Gerontological Society of America see this meeting as a first step. We look forward to many fruitful years of cooperation between gerontological scholars in China and scholars from other countries.

*President, The Gerontological Society of America, 1981-1982

PART II

POPULATION AGING IN CHINA AND ITS IMPACT

GROWTH OF THE AGED POPULATION IN CHINA: TRENDS AND POLICY

Wei Hengcang
Vice-chairman, Chinese National Committee on Aging

Population aging is a world-wide trend as well as a world-wide social problem. China has the largest population and the largest number of elderly in the world. It is therefore a pressing task of strategic importance for us to improve our understanding of this issue and make positive preparations for the future. This paper is intended to discuss trends in the growth of the aged population in China, its impact, and corresponding policy measures.

I. The Growth of the Aged Population in China

The growth of population is conditioned by the natural process of population reproduction and by social factors. After the founding of the People's Republic, with the social and economic development and the improvement in people's living conditions, both the total population and the population of elderly rapidly expanded. According to the statistics from the national censuses, the total population in 1953 was 567.45 million, of which people over 60 amounted to 41.54 million, or 7.3% of the total. In 1964, the total population was 694.58 million, of which people over 60 amounted to 42.25 million, or 6.1%. In 1982, the total population was 1,000.391 million, of which people over 60 amounted to 76.64 million, or 7.6%. In the nearly three decades between 1953 and 1982, the total population increased by 76.9%, and the population over 60 increased by 84.5%. However, due to the overly rapid increase of total population, the proportion of the aged people over 60 in the total population increased by only 0.3%, remaining at an almost constant level of 7%. Thus, the Chinese population of the past thirty years can be characterized as a population of the "adult type."

Since the implementation of family planning in the 1980's, the growth of population has been brought under control, and the proportion of elderly has begun to rise. In 1985, the total population of the country was estimated to be 1.05 billion, of which the aged population[1] amounted to 87 million, accounting for 8.25% of the total. In 1995 the total population will be 1.2 billion, of which 120 million or 10% will be elderly. In 2000, the total population will be 1.27 billion, of which 130 million or 11% will be elderly, a percentage in excess of the then world average of 9.7%. By 2025, the total population will be 1.3 billion. The aged population will amount to 280 million or 20% of the total population, and therefore, the Chinese ratio will far exceed the world level of 13.7% and come very close to the ratios of developed countries. By 2050 the total population will be 1.5 billion, the aged population 370 million, or 26% of the total.

According to these predictions, the 18-year period between the early 1980's and the end of this century will be a period of demographic transition from the "adult type" to the "aged type." The total population will increase by 19% and the aged population by 50%. During the 25 years between 2000 and 2025, the total population will increase by 20% and the aged population by 100%. From 2025 to 2050 the total population will increase by 7% and the aged population by 40%. In the first fifty years of the twenty-first century, the aged population in China will increase from 130 million to 370 million and the pecentage of the aged in the total population from 11% to 26%. These years will be the ones of extremely fast transition, at rates which have rarely been observed in the history of the world.

II. Characteristics and Effects of an Aging Population in China

China is a country with a vast territory, a large population, and an underdeveloped economy. The characteristics of an aging population in such a country can be boiled down to the following aspects.

First, the dependency ratio of the aged will steeply increase and the major concern of social support will shift from children to the elderly.

It is predicted that from the 1980s to the end of this century the share of the dependency ratio comprised of the aged will steeply rise from 12.9% to 46% and that of children will decline from 55.6% to 34.3%.... The pressures of dependency on the society will be extended from one age group to another. The increased share of the aged will lead to increases in expenditures for pensions, public health services, social welfare, and social relief....

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[1] We assume that the aged referred to in the statistics that follow are all those age 60 and over. [Editors]

Second, the aging of the population will gain significant and quick momentum.

The process of population aging in China will start in the 1990s, or between 50 and 100 years later than in developed countries.... Furthermore, in China the transition to the stage of advanced aging will take less than 50 years (In the developed countries in Europe and America this transition took on the average over 80 years, and in Japan it has taken 60 years.) As such, it is more imperative and challenging for us to make thorough material and spiritual preparations for coping with our fast paced process of population aging.

Third, the growth of population is imbalanced across different areas.

The levels of economic and cultural development and of population age composition vary greatly across different areas of our vast land. The proportion of aged people so differs from region to region that there will be more than a 20-year lag between the time when the first areas enter the process of population aging and the time when the whole population is involved. "Aging" will begin in cities, especially big cities, and in the coastal areas. It will then extend to the rural areas and the interior or frontier areas. Shanghai is the first to become an area with an aged population and since the early 1980's, population aging has proceeded at a rate even higher than those in developed countries. Beijing, Tianjin, and the provinces of Jiangsu, Zhejiang, and Liaoning are catching up. In the 1990's, most of these cities and provinces will become areas with aged population. They will be followed by the interior and frontier areas slightly later. Such a situation indicates the complexity of the issue and suggests the need for a diversity of policy measures.

Fourth, economic development will not meet the demands raised by population aging.

Some developed countries in Europe and America underwent population aging after their economies had already developed and the living conditions of the people had reached rather high levels. The process of population aging in China started under conditions of a less developed economy and relatively low livng standards. By the middle of the next century, the Chinese economy will not have reached the highest level in the world. but the percentage of elderly and the rate at which the population will have "aged" will be among the highest. The difference in expected economic growth and population aging suggests that demand will go beyond what the economy can afford to supply.

Social and economic development inevitably lead to population aging. Aging of a population in turn exerts a direct and far-reaching impact on social and economic development... On the basis of the preceding discussion of the characteristics of population aging in China, the effects of aging can be further singled out as follows.

First, changes in age composition will raise the average age of the work force. This will bring about the issue of tapping the resources of an increasingly aged labour force and lead to some readjustments in industry, production structure, and the variety of products.

Second, the increase of retirees and aged peasants will raise the percentage of elderly in the total dependency ratio and lead to increased expenditures for pensions, medical expenses, social welfare, and social relief. These changes will in turn lead to corresponding adjustments in distribution relations and social security policies and systems. In particular, the issue of social security for the peasants will become a pressing one.

Third, increases in the number of aged people will lead to new demands in matters of health care, recreation, food, clothing, housing, and transportation....

Fourth, in the past, due to the relatively low proportion of aged people in the total population, affairs of the elderly were by and large handled by different administrative departments separately. Now the enormous growth in the numbers of elderly has made diverse administrative systems problematic and thus led to organizational readjustments to strengthen multilateral connections, improve overall planning and coordination, and integrate administration.

Fifth, with a great increase in the number of the aged, there will be changes in their values, mores, and human relations in society and the family, and there will arise new problems in relation to the protection of aged people's rights and interests. In particular, in the process of drastic population aging some people may be at a loss or even embarrassed due to the lack of spiritual preparations. Thus the construction of socialist "spiritual civilization" another challenges facing us.[2]

Population aging is an inevitable trend of social progress and the development of science and technology. It is a hallmark of the advancement of human beings. But every matter has two sides. Rapid population aging in China will definitely break up the old equilibrium in the society and bring about new needs and problems, pushing the economy towards a new equilibrium at a higher level of development. At the same time, it will create great pressures and more difficulties. But the difficulties ahead can be tackled and pressures turned into a dynamic force. The key here is to face up to the problems, make early strategic preparations, and positively deal with the challenges.

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[2] The phrase "jingshen wenming" might be more literally translated as "the culture of the mind". But not only has "spiritual civilization" become the standard official translation of the phrase, it also better expresses the antinomy betweeen material and non-material aspects of social transformation which the author seeks to stress. [Editors]

III. Policy Measures to Respond to Population Aging

Our country has a socialist system. With the fine tradition of respecting the aged and caring for the young, China is in the process of constructing a socialist nation with superb "material and spiritual civilizations" and high-standard democracy. The ultimate goal of social production is to meet people's increasing material and cultural needs. In dealing with the challenges of population aging, we should bring into full play the superiority of the socialist system, carry forward our traditional virtue of respecting the aged and caring for the young, and continue the efforts to construct superb socialist "material and spiritual civilizations" as well as a high-standard democracy.... On the basis of our past experiences, it seems to us that the following steps should be taken. (Some of them have already been taken.)

First, make more efforts through mass communication education to promote the construction of "spiritual civilization."

Socialist "spiritual civilization" is an important characteristic of socialism and a major indicator of the superiority of the socialist system. The mass media-- such as newpapers, journals, magazines, radio, and television-- should be utilized to serve the purpose of propaganda and education so that the construction of a socialist "spiritual civilization" can be promoted and its role as a catalyst brought into full play. This is the spiritual corner-stone for achieving progress and tackling the challenges of an aging population. The purpose of such efforts is to (1) make everyone realize the importance and urgency of the issue of population aging; (2) develop new human relations of mutual respect and cooperation in helping people to understand interpersonal and intergenerational relations as well as the relations between the new and the old; (3) enhance ideological consciousness and moral standards by means of carrying on the activities of encouraging the "five stresses, four virtues, and three loves," honoring model families and popularizing the deeds of respecting the aged and caring for the young so that the traditional virtue of the Chinese nation and the new socialist mores can be carried forward.

Second, put plans into effect and cement laws and regulations.

Our economy is administered according to a plan. Improving living conditions and tackling the issue of aging are of great importance both for the interests of the elderly themselves and for social stability.... The government is responsible for playing the major part in making satisfactory arrangements for the welfare of the people. The government departments concerned at all levels should pay close attention to the issue of aging. In particular, programs for the aged should be incoporated into the long-term plans, especially the "Seventh Five-year Plan," and specific steps should be taken to realize the goal of reaching a "comfortable" standard of living by the end of this century.

The Constitution provides that under the circumstances of old age, illness, senility, disability, and loss of the ability to work, the citizens of the People's Republic of China are entitled to material support from the government and society. The government is responsible for developing the social security, social relief, and health services necessary to fulfil these provisions. "By law" adult citizens are responsible for supporting their parents, and maltreatment of the aged is prohibited. In addition to these major stipulations, other legal regulations should be revised so that the political and economic rights of the elderly can be legally protected.

Third, care for living conditions and develop various types of program for the aged.

The aged are the creators, inheritors and disseminators of our "material and spiritual civilizations".... Therefore, it is not only a necessity but also a moral responsibility for the society to care for them, help handle their problems and develop various programs to meet their special needs. Developing programs for the aged is a social undertaking. In particular, when there are large numbers of elderly but limited material resources and social welfare facilities, support must come from many places.... In our country, the necessary financial, material, and personnel resources are contributed from all parts of the society. This is a model of running social programs on the basis of social forces and is characteristic of the Chinese way of providing support for the aged through joint efforts by the government, collectives, and individuals.

Fourth, give full play to the role of the aged so that they can continue to make contributions to the society.

The aged have accumulated great knowledge and practical experiences from their life-long involvement in production and social activities. This is a precious form of social wealth and an intellectual resource. Retiring from a job does not necessarily mean the end of commitments and moral responsibilities to the society. Furthermore, the intellectual wealth and resources of the aged should not be lost or wasted. A soldier should never give up in the battle-field as long as he is alive. People in old age still have the responsibility of contributing their knowledge and experiences to society, but they will participate in a new way. This is necessary for the construction of material and "spiritual civilizations," and it is also desired by the aged themselves.

When population aging affects political, economic, and cultural development, the dialectic relations between the aged and the society based on mutual responsibilities should be correctly perceived. While society meets the material needs of the elderly, the remaining potential of the elderly can still be brought into play. This is not only conducive to the physical and mental states of the aged whose vitality is thereby reactivated, but is also beneficial to the society in the sense that the pressures stemming from population aging can be alleviated, and the society can therefore better meet the needs of the aged. Certainly, the focus should be on the intellectual resources and, in particular, on encouraging the elderly to be involved in social work. For this, careful organizational work and realistic consideration are needed. The health conditions, expertise, and interests of the elderly should be taken into account. The work arranged for the aged should be moderate, diverse, and flexible. In practice, there are many ways for the aged to participate in social activities, such as writing memoires, conducting academic research, writing books, working as advisers, providing technical consulting sevices, educating the younger generations, working in the "third sector,"[3] finding jobs for unemployed young people, and participating in voluntary activities.

Fifth, establish organizational networks.

The success of any project depends on the effectiveness of the corresponding organization. The work concerning the affairs of the aged involves many organizations, many disciplines, and multiple levels of administration, but in general three groups take responsibility. First, there are committees on aging in government organizations at all levels. Working in collaboration with groups such as non-governmental organizations, scientific research institutions, and news agencies. These committees function as general organizers and coordinators, lay out overall plans, inspect work at grassroots levels, and carry out international exchange and cooperation. Second, within some government departments, there are divisions that specialize in affairs of the elderly or of veteran cadres. Third, there are non-governmental organizations voluntarily set up by the aged, such as associations of physical culture, associations of retired engineers and technicians, and societies of calligraphy and painting. Under the supervision of the government in general, and the concerned government departments in particular, such autonomous non-governmental organizations.... have developed into an organic network for handling affairs of the aged. Such an organizational network of horizontal connections among units of different regions represents a real change from the existing system of vertical administrative channels and is in accord with current policy to develop multilateral relations. Actual experience has shown that such a network has great advantages. For instance, through the work of the committees on aging, activities concerning the affairs of the aged in various departments have been coordinated, and the departments concerned at all administrative levels across different regions have developed cooperative relations on the basis of interdependence and mutual benefit... Based on such experience, more improvement should be made in the organizational network to strengthen our ability to cope with the problems of population aging.

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[3] Here the author is using the "third sector" to differentiate employment by its organizational characteristics rather than by type of product. The "third sector" refers to the newly established small cooperatives and collectives falling outside the state plan, which supply both goods and services and absorb urban and suburban surplus labour. [Editors]

Sixth, conduct scientific research to lay a theoretical foundation.

While work concerning the affairs of the aged is being actively implemented, research efforts are also advancing. Surveys have been conducted in many cities and provinces to get first hand information and diagnose problems. Many cadres engaged in theoretical studies and practical work have written special reports. Over ten symposiums have been held with several dozen papers presented each time. Societies of gerontology have been set up in Heilongjiang, Tianjin, Shanghai, and some other provinces and cities. After two years of preparation, the first national symposium on aging was held in the middle of April 1986, and over 350 papers were presented. At this symposium the "Gerontological Society of China" was established. This is an indication that scientifc research on aging in China has stepped into a new era of organized development.

Though started rather late, gerontological studies in China have been pursued in a unique way over the past few years. They are based on the present conditions in China and integrated with studies in many other subjects, and theory is linked with practical work.

Aged people in China enter their later years as a social group under the socialist system and with physiological, social, and psychological characteristics unique to their age group. In other words, they are different in these three aspects from other age groups in China and from the aged in old China or in other countries. The objects of gerontological studies in China should be the whole group of the aged under the system of socialism. In view of the several different facets of aging, gerontological studies will have to refer to a wide range of subjects, such as physiology of aging, geriatrics, psychology of aging, and sociology of aging. Hence, gerontology is in fact a comprehensive subject interrelated with a multitude of other independent subjects. The methodology of such a subject should be guided by dialectic materialism and historical materialism and based on the rule of combining theory with practice, continuity with innovation, and social science standpoints with natural science perspectives.

Encouraging progress in gerontological studies has been made in China. However, there is still a long and difficult way ahead. The cadres engaged in practical and theoretical work should continue their collective efforts to extend the scope of their studies, integrate research with current social developments, and give full play to the role of theory for guidance.

Seventh, increase international exchange and promote collaboration.

Population aging is a common concern all over the world and the challenges therefore should be tackled by the whole international community. In some countries, social work concerning the affairs of the aged and gerontological research already have a long history. Their experiences can serve as the reference for us. China is a socialist country with a vast territory and a large number of elderly increasing at a fast rate. How the affairs of the aged are handled in China will have some repercussions in the world. China was involved in laying out the "International Program of Action on Aging," and we have received great attention from the international community. On the one hand, we need the help and aid from the international community. On the other hand, we should make our contributions to human society. Thus, while trying to make progress in practical and theoretical work, we should strengthen the ties with the United Nations, the international community, and the gerontological organizations concerned in other countries--in order to exchange information and join hands in work. This is one of the important measures we should take in the face of the challenges of an aging population.

THE IMPACT OF AN AGING POPULATION ON SOCIO-ECONOMIC DEVELOPMENT AND FAMILIES IN CHINA

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I. The Demographic Transition and Trends in Population Aging

As of 1949, China had basically completed the first phase of the demographic transition characterized by high birth rates, high mortality rates, and low rates of population growth. The society was stable, the economy was developing, and except for a few years, mortality rates were declining. In 1949, it was 20%; by the end of 1983, it dropped to 7.1%. However, prior to the 1970s, birth rates had been rather high. As the result of high birth rates and low mortality rates, the population increased at an average annual rate of 2% in the first twenty years after 1949. China then entered the second phase of demographic transition characterized by high birth rates, low mortality rates, and high growth rates. The 1953 National Population Census revealed a young age composition: the population between 0 and 14 accounted for 36.28% of the total population, whereas the percentage of the population 65 and over was only 4.4%.

Society evolves in the course of time. After the rapid decline in mortality rates, birth rates in China also began to go down gradually. Then, in the 1970s, the decline accelerated. Between 1969 and 1979 the birth rate fell from 34% to 17.8%, ... and the natural population growth rate plummeted from the relatively high level of 2.7% in 1968 to 1.2% in 1983. As birth rates declined, there were also signs of a transition in the age composition of the population. By 1982 the percentage of the population between 0 and 14 had fallen to 33.6%, and the percentage of the population 65 and over had risen to 4.9%. Since then, China has entered the third phase of demographic transition characterized by a low birth rate, a low mortality rate, and a low growth rate. However, due to the baby boom in the 1950s and the 1960s, there will be a long period of time before total population growth stablizes. (1)

The rapid and sustained decline in birth rates within a short period of time will have a substantial impact on the process of population aging in the future. According to a comparative prediction of China and Japan, the Chinese population will age in three stages.... From 1982 to the end of this century will be the "period of gradual aging." The percentage of those 65 and over will rise from 4.9% to 7.3%, and the population will become an "aged type." Years 2000 to 2025 will be the "period of accelerated aging" during which the percentage of the aged will rise from 7.3% to 13.6%, reaching levels comparable to those of the developed countries in the 1980s. Years 2025 to 2050 will be the "period of over-aging." The percentage of the aged will increase from 13.6% to 21.1%, setting an unprecedented record and staying at this level for a long period of time (cf. Table 1). Certainly, the future population can hardly be exactly the same as predicted. However, all estimates do reveal this same general trend.

Table 1. The Trend of Population Growth in China

Year	Total Population (in 1,000)*	Sizes of the Three Major Groups (in 1,000)			Percentages of the Three Major Groups (in %)		
		0-14	15-64	65+	0-14	15-64	65+
1982	1,014,524	334,720	629,638	50,166	32.99	62.06	4.94
1985	1,049,925	305,990	687,909	56,026	29.14	65.52	5.34
1990	1,116,807	283,641	765,967	67,199	25.40	68.59	6.02
1995	1,188,314	295,314	813,491	79,510	24.85	68.46	6.69
2000	1,249,372	302,767	852,915	93,691	24.23	68.27	7.50
2005	1,300,406	297,345	897,015	106,047	22.87	68.98	8.15
2010	1,347,858	284,297	945,481	118,082	21.09	70.15	8.76
2015	1,394,645	281,641	973,612	139,394	20.19	69.81	9.99
2020	1,440,529	289,006	975,684	175,840	20.06	67.73	12.21
2025	1,480,642	295,293	984,271	201,079	19.94	66.48	13.58
2030	1,512,000	295,217	971,290	245,494	19.52	64.24	16.24
2035	1,534,881	290,252	948,672	295,958	18.91	61.81	19.28
2040	1,551,299	287,437	933,602	330,261	18.53	60.18	21.29
2045	1,562,718	289,681	938,145	334,893	18.54	60.03	21.43
2050	1,568,645	293,764	943,663	331,219	18.73	60.16	21.11

* the figure at the end of year

Source: Model 9 in "A Prediction of the Chinese Population" by Ogawa Naohiro, Saito Yasuhiko, Yao Shuben and Xu Qin (November 1985)

Parameters: TFR declines from 2.63 in 1982 to 1.8 in 2000, and goes back to 2.1 in 2010; there will be no changes afterwards. Life expectancy at birth increases for males, from 66.61 in 1982 to 69.93 by 2000, and to 77.45 by 2050, and females, from 69.60 to 69.93, and then to 82.94.

Current population policies have successfully slowed the rapid tempo of population growth in the 1950s. The precipitous decline in fertility rate has already changed the age composition of the population, and by the twenty-first century, the Chinese population will age at a speed virtually unmatched by any other nation. The process of demographic transition in developed countries occurred more slowly. Declines in birth rates occurred only after their economies were well developed and production, as well as individuals' daily lives, were somewhat socialized. As a result, people were not generally aware of the impact of demographic transition. China's demographic transition is not the same. It has proceeded at an uneven pace and has occurred under rather backward economic conditions. Furthermore, the conscious efforts made to curb population growth in the situation of under-socialization of social life has made it inevitable that China will experience the problems of demographic transition differently from developed countries and that both family relations and socio-economic relations will be affected by the rapid process of population aging.

II. The Impact of Population Aging on Economic Development

(1) The changes in the working age population.

In the process of population aging, demographic changes take place not only among the aged but also among children and people of working age. The changes among the people of working age are closely related to the changes among the aged. The size and the age composition of the working age population determine, on the one hand, the size and age composition of the aged population in the future and, on the other hand, the current capacity to support the aged population.

In China, between 1982 and 2000, the number of people of working age will increase on an average 12.4 million per year, and the percentage will rise from 62% to 68%. In the first 25 years of the twenty-first century, the growth rate will slow down to an average of 5.25 million per year, and the percentage will range between 67% and 70%. In the next 25 years, the size of the working age population will actually decrease, falling by an average of 1.62 million per year, ... and the percentage will decline to 60% by 2050.

Over these seven decades, the compositon of the dependency ratio will change. The percentage of children in the total population will decline from 32.99% in 1982 to 24.23% in 2000, and the dependency ratio of children will fall from 53.16 to 35.50. The percentage of aged people will go up from 4.94% to 7.50%, and the dependency ratio of aged people will rise to 10.98. The degree of the increase in the dependency ratio of aged people is lower than that of the decrease in the dependency ratio of children. Thus the total dependency ratio will decline from 61.13 to 46.48. At the beginning of the twenty-first century, the percentage of children in the total population will stablize, while that of the aged will continue to rise. As a result, the total dependency ratio will reach its lowest point of 42.56 in 2010, return to the 1982 level by 2030, and rise to new heights after 2035. (cf. Table 2).

Table 2. Trend of Changes in Dependency Ratio

Year	Total Dependency Ratio $\left(\frac{P0\text{-}14+P65+}{P15\text{-}64}\right)$	Dependency Ratio of Aged People $\left(\frac{P65+}{P15\text{-}64}\right)$	Dependency Ratio of Children $\left(\frac{P0\text{-}14}{P15\text{-}64}\right)$
1982	61.13	7.79	53.16
1985	52.63	8.14	44.48
1990	45.80	8.77	37.03
1995	46.08	9.77	36.30
2000	46.48	10.98	35.50
2005	44.97	11.82	33.15
2010	42.56	12.49	30.07
2015	43.24	14.32	28.93
2020	47.64	18.02	29.62
2025	50.43	20.43	30.00
2030	55.67	25.27	30.39
2035	61.97	31.20	30.60
2040	66.16	35.37	30.79
2045	66.58	35.70	30.88
2050	66.23	35.10	31.13

Source: same as Table 1

It is generally estimated that by the end of this century, the working age population will increase rapidly, providing abundant human resources for the fulfilment of the goals set for 2000. With a low dependency ratio, the Chinese population will be in a golden age for the economic take-off.

Table 3. Trend of Changes in the Working Age Population

Year	Total Number of Working Age People (15-59) (in 1,000)	Age Composition of Working Age Population(in 1,000)			Age Composition of Working Age Population(in %)			Total
		15-29	30-44	45-59	15-29	30-44	45-59	
1982	601,904	298,554	179,807	123.543	49.6	29.9	20.5	100%
1985	657,338	321,843	206,273	129.222	49.0	31.4	19.7	100
1990	731,270	357,379	235,481	138,410	48.9	32.2	18.9	100
1995	773,703	338,646	278,477	156,580	43.8	36.0	20.2	100
2000	811,814	301,433	315,135	195,246	37.1	38.8	24.1	100
2005	853,132	279,761	350,344	223,027	32.8	41.1	26.1	100
2010	888,562	291,704	332,300	264,558	32.8	37.4	29.8	100
2015	896,565	299,548	296,222	300,795	33.4	33.0	33.5	100
2020	904,833	294,585	275,475	334,773	32.6	30.4	37.0	100
2025	887,377	282,041	287,713	317,623	31.8	32.4	35.8	100
2030	859,500	279,771	295,808	283,921	32.6	34.4	33.0	100
2035	843,815	287,399	291,147	256,269	34.1	34.5	31.4	100
2040	859,617	293,821	278,973	277,823	34.5	32.8	32.7	100
2045	865,838	293,825	276,952	286,061	34.3	32.3	33.4	100
2050	855,609	288,971	284,705	281,933	33.8	33.3	33.0	100

Source: same as Table 1

Equally important to the changes in the size of the working age population are changes in its composition. As most employees retire at the age of 60, we examine the age composition of the people between 15 and 59. For the convenience of interpretation, they are broken into three sub-groups as shown in Table 3. The size of the working age population between 15 and 29 will increase slightly by the end of this century and stablize at 280-290 million (a level slightly lower than that of 1982). The number of those between 30 and 44 will almost double by the end of this century, amounting to 350 million in 2005, and the population between 45 and 59 will increase at an almost equally fast rate for the next 20 years, and then grow even faster than the middle-aged subgroup. By 2005, the total number of people in this oldest group will be 2.6 times as many as that in 1982, increasing from 124 million to 318 million. After that time, the size of the working age population will remain relatively constant, but the rapid process of aging within this group will bring about some unfavourable effects on future development. Furthermore, dependency ratios will rise. The coincidence of these two factors will bring further pressures on economic development.

The negative effects of the aging of the working age population on production come from three directions. First, productivity will be undermined as the work force grows older. Beyond middle-age, some organic functions of the body begin to weaken, and the slow-down of physical and mental conditions will lead to declines in productivity. Second, the older workers with limited multi-occupational skills and low adaptability are not favourably disposed to innovations of technology. With the development of the economy, new sectors and trades are emerging. Occupational mobility will become unavoidable, and more adaptability will be required of workers. In matters of learning new technical skills, young workers have advantages over the aged. Today, the inter-occupational mobility is still limited among the workers in China, and the problem of poor adaptability has been covered up. However, as the economic reforms enliven the economy and necessitate occupational mobility, it is foreseeable that this problem will eventually surface. Third, the workers' psychological changes have some effects on production and innovation of technology. Young people are still growing up and changing. They are vigorous and more ready to embrace new things. The aged are fully formed and mature, and sometimes tend to be conservative. Therefore, a high percentage of young people in the work force can better promote innnovation in production and technology.

No doubt, the same changes under different conditions produce different effects. The impact of aging on different types of work are not identical. The ability to work refers to two aspects: manual work and mental work. Many studies have shown that the potential of human mental capacities is higher than that of physical capacities, and the former endures for longer than the latter. Also, for those engaged in mental work the effects of age difference are relatively low. It is not difficult to perceive this in real life.

At present, production technology in China is not highly developed and the implements of production are backward. A large number of the production units are in the traditional industrial sector and handicrafts. Simple work and semi-mechanized work still depend mainly on workers' physical abilities. The decrease in the number of young workers, therefore, will deplete the reserve force in such sectors. Nowhere is this more clearly seen than in Shanghai, where the aging of the work force is most advanced. According to the predictions of one government department in Shanghai, the urban work force over the age of 17 will expand for the next few years on an average of 50,000 each year and 5,000 in suburban areas.... However, from 1986 to the end of this century the average number of retirees will be 76,000 each year, exceeding the number of new entrants.(2) Furthermore, because many young people enrolled in colleges and specialized vocational schools will defer joining the work force, the aging of the Shanghai work force will not only affect expansion but also the process of simple replacement. This is especially true in such industries as textile and steel where physical work is indispensable.... On the one hand, the decline in numbers of young workers will make the replacement of fixed assets and introduction of new techniques more imperative and thus contribute to enhancing the technical level of all the production sectors in Shanghai. On the other hand, more employees will be recruited from suburban areas or other parts of the nation, and thereby increase the urban population and offset to some extent the positive effects of controlling population through declines in fertility rates.

In contrast with developed countries, the education level and physical conditions of the work force in China are still low. Today, the aging of the working age poplation in developed countries is already very advanced, but the output of production does not seem to be negatively affected. Some scholars even hold that the aging of the working age population has no separate impact on production. In fact, it seems to us that we should not separate this from the advanced technology and high level of education in developed countries. The middle-aged and elderly workers are better educated and equipped with advanced technical skills which have made them competent for technically sophisticated work. This can counteract the negative effects of the decline in physical capacities due to the increase of age and, in some cases, lead to even higher productivity.

The adoption of the policy of "opening to the outside world" in practice has pushed us to the front of international competition. The large number of youth of working age is an advantage for the economic take-off of China. However, this is true only if the quality of the work force is improved. Otherwise, the advantage might turn into a disadvantage.

(2) The changes in social dependency.

One of the important effects of population aging on economic development is the impact on the composition and size of dependency ratios. By the end of this century, the decline in birth rates will reduce both the overall percentage of children in the population and the percentage of children as a share in the total dependency ratio. The percentage of the aged will increase, but at a rate lower than the growth rate of children, and as a result, the total dependency ratio will decline....

However, even before the total dependency ratio reaches ... the point where the ratio of aged people exceeds that of children, the increase in the dependency ratio of aged people will be regarded as a pressure on the society. The reason for this is that the support provided for the aged by the working age population is different from that for children.

Both elderly people and children are consumers. Their living expenses come from two major sources: the government and their families. The difference between the support for the aged and that for children rests with the different proportions of these two major sources. The children are mainly supported by their families. There are some appropriations for children from the government and the collectives (such as education funds, medical care funds, appropriations for cultural establishments, etc.), but they do not account for the bulk of the necessary support. It is estimated that the average living expenses of an urban child between birth and 14 years of age are 460 yuan each year, of which the government provides 148 yuan. The amount in suburban areas is 332 yuan, of which the government provides 65 yuan; and in the countryside it is 109 yuan, of which the government and the collectives provide 29 yuan(3)....

Sources of support for the aged also differ between urban and rural areas. In the countryside, pensions are rare. The cooperative medical service only provides limited medical insurance. Furthermore, in many areas the organizations providing medical service do not work well due to defective management. Except for those still engaged in production activities, the living expenses of the aged in rural areas are mainly provided by their children. In other words, the rural elderly are supported by their families. Under such circumstances, aging of the population will increase the load on aged peasants' children.

China is undergoing a historical transition. The reforms of the economic systems, first carried out in the countryside, have led to not only commercialization and industrialization but also urbanization. In the next twenty or thirty years, the size of the population engaged in agricultural production will sharply decrease. As a historical trend, supporting the aged will definitely shift from a family undertaking to a social undertaking....

In urban areas, the retirement system is already well established. Most of the retired employees are entitled to pension benefits and their living expenses come mainly from the government. According to some statistics, a retiree's annual pension is on the average 660 yuan or 4.5 times higher than the government contribution for a child in an urban family. In addition, urban retirees have health insurance, and their medical expenses are covered by the government. The increase of aged people will therefore increase government expenditures on pensions, medical expenses, and welfare. Take Shanghai as an example. From 1978 to 1984, the number of retirees increased by 170%, but the expenditure on pensions increased by 293%, and the expenditure on medical expenses accounted for one third of the retirement funds. The total sum of the expenditures on pensions and medical expenses for the retirees is equal to 24.8% of the total amount of salaries for the employees.(5) Thus, aging of the population means that an increasing portion of the national income will be used for the elderly and that in the next century when the aged population increases at an ever faster rate, ... there will a serious challenge to acclerating or even maintaining the speed of social and economic development.

The conclusion that an increase in the size of an aged population increases pressures on the society is derived from the assumption that the economy remains static. Yet, for a developing economy, the situation is more complex. If improvements in productivity raise national income at a higher rate than the total population "ages," the pressures from the aging of the population on production and the society can be alleviated. However, fluctuations are unavoidable. This is particularly true of the agricultural sector which is very much influenced by fluctuations in the natural environment. Manipulating the developing economy of China such that it can endure the pressures brought about by the increasingly high percentage of elderly is not a simple issue and needs thorough study.

(3) The changes in consumption.

Production and consumption are integrated in a dialectic unity. Production caters to the needs of consumption, and consumption in turn reacts on production and steers the orientation of the investment in production. As people grow old, their income, life style, and housing conditions also change, and the quantity of consumption among aged people is different from that among the middle-aged or young. Therefore, the increase in the size of the aged population affects patterns of consumption. Today, in many big cities, the aged have become important consumers of movies, TV programs, and various publications. Old folks' universities are in the making. Some commodities needed by the aged have been in short supply, thereby posing new demands for products and services. In the face of the changes in age composition of the population, it is necessary to make efforts to adjust investment and cater to the needs of the aged in matters of transportation, services, housing, and cultural establishments.

In general, the elderly have a greater demand for services than ordinary products. Economic development has contributed to the improvement of people's living conditions and led to an increased demand from the aged for services.... The services needed by the aged can be divided into two types: first, there are daily life services such as transportation, recreation, food, haircutting, and baths. Second, there are medical services. The morbidity among the aged is estimated to be twice as high as that among middle-aged and younger persons.... The aged have been one of the major concerns of medical departments and institutions. The change in age composition, therefore, will greatly increase the demand for medical services. The existing medical facilities in China find it difficult to respond to the growing numbers of aged patients. Therefore, population aging has made it imperative for the medical sector to improve the current situation by expanding services, increasing facilities, adjusting the professional composition of medical workers, and establishing a network of health care appropriate to the conditions in China so that they can provide all the aged with good medical service and treatment.

III. The Social Problems Resulting from an Aging Population

(1) The financial security of the aged.

For the aged, financial security is of primary importance. In China, financial support for the aged is not balanced, and there is a big gap between urban and rural areas. Retirement systems and free health services are only available in urban areas. Most peasants have low income, and to be financially secure in their old age, they must depend on their children and families.... But the families in China have been undergoing some changes. Small families are on the increase, and wide concern has arisen over the issue of how to continue the protective functions of traditional families. Thus, the issue of financial security of the aged has become a critical problem to be tackled in the current economic reforms and received close attention from the government and other departments concerned.

(2) The problem of labor force participation.

The quantitative extension of life expectancy also produces qualitative social changes. Better living conditions and well-developed medical services will improve people's health conditions and prevent senility. The aged people today are healthier than those one hundred years ago (or even several decades ago). Working conditions have also improved. Thus, using either subjective or objective criteria, the aged are better able to participate in work.

Currently, the population in China is rather young; similarly, the age composition of the aged population is also "young." The percentage of those between 60 and 70 is high, and the "junior elderly" account for the majority. According to some surveys, one third of those over age 60 in urban areas still possess the ability to work, and among the peasants who are self-employed individuals that do not share in the benefits of retirement system, most continue to work as long as their health permits. In those cities where the retirement system has long been established, and in particular, under the situation when a large number of employees have retired from their work in recent years, it is realistic to tap and make use of older workers. The spirit of hard-work has been cherished since ancient times. Today, many aged people are not willing to stay at home and desire to do something, to contribute their intelligence and wisdom to social development.

However, from the perspective of population growth, there is an urgent demand for employment among the young as well as the old. A large number of young people will enter the work force at the same time as a large number of people reach retirement age.

This will be especially acute in big cities where population aging will proceed at a faster rate than in other parts of the nation. Thus, the problem of employing the young parallels the problem of rearranging jobs for the elderly.... No doubt, it is difficult to deal with the two problems at the same time, and solving the problem of employment for the young is of primary importance. Yet, the geographic dimension of this dilemma should be taken into account. The large number of young people waiting for employment are mainly in the countryside, and the problem of reemloyment for the elderly arises by and large in urban areas. Even so, the final solution depends on our creative efforts.

(3) Aging of the rural population.

Urbanization increases labor mobility. In the course of the on-going economic reforms, more and more surplus labor in the countryside will transfer to non-agricultural sectors and migrate to urban areas. But the size of population in big cities has to be controlled, and therefore the center of future development will be small townships. Already the migration of rural population to small townships is gaining momentum, and the population there is being rejuvenated as large numbers of young peole move to the small towns. This migration, however, accelerates the aging of the rural population.

Currently 80% of the aged population in China live in the countryside. They have little or virtually no social security. Medical services and other social services are centered around urban areas, and due to poor health, low income, and expensive transportation, the aged in the country can rarely benefit from the services available in urban areas. The aging of the rural population also retards the normal process of agricultural production and technical advance. All these problems should by no means be neglected in the society.

(4) Organizational factors relevant to population aging.

Population is a subsystem of the general system of the society. When a population undergoes drastic changes, the equilibrium in the old pattern of relations breaks down, and many relations have to be readjusted to fit in with the changed conditions. Aging of a population forces reajustment of obsolete legal regulations in the society.

Labor force participation by the elderly affects the retirement system. Early retirement of employees extends the period of pension benefits and increases the fiscal burden on the government. However, it is equally burdensome if the retirement age is deferred and enterprises pay aged employees with declining productivity wages better than those given to the young. This is a thorny problem faced by the society with an aging population.

With the advance of science and technology, a variety of highly sophisticated medical instruments have been invented and the quality of medical treatment improved. Mortality rates are declining and life expectancy increasing. At the same time, two new problems have emerged: the number of sick or disabled elderly people has increased, and the prices for the new medical instruments and facilities have risen, while the medical funds of the government and the collectives remain scarce. Whether the existing medical system can meet the challenges posed by the aging poulation remains a question to be answered by the medical departments through feasibility studies.

The impact of demographic aging is many sided. The welfare system, the public health system, the wage system, the employment system, and the retirement system are all affected by the increase in elderly members. In the face of population aging, it is of crucial importance to social development to adapt and, if necessary, restructure the existing systems.

(5) Additional social problems.

Increased life expectancy also creates other problems: how to spend the additional years of leisure; how to coordinate the relations between the aged and the rest of the society; and how to renew values among the elderly. These questions are of particular importance among the urban elderly.

There are also special problems for women. Aged women are more vulnerable than aged men. The average life expectancy of females is longer than that of males. In the Chinese tradition, a wife should be younger than her husband. Thus, widows tend to outnumber widowers and get less help from their spouses. Moreover, aged women of today are survivors of the old society. Most of them received little education, and few were employed outside the home. Coming into old age, they do not have their own sources of income and have to rely on financial support from their families and the society.

IV. The Impact of an Aging Population on Families

Families are the cells of the society, and for a long time they have assumed responsibility for supporting the aged. Because of this tradition, most of the aged in China have been able to enjoy their later years within the household of their families. This tradition no longer exists in the West. In modern Western societies, the parents are responsible for rearing their children, but the children are not necessarily responsible for supporting their parents.[1] The well-known Chinese sociologist Fei Xiaotong describes the way family members relate in China as "feedback," and the relationship in the West as "relay." However, in the course of demographic transition and economic development, some changes in family structure and family size have taken place in China.

The decline in fertility has played a decisive role in the aging of the population. Since the late 1970s, when the Chinese government began to make great efforts to adopt the "one couple one child" policy, the number of new-born children has been on the decline and the percentage of single children on the increase. In 1982, the TFR was 2.63, and 44% of all births were first-order births. Because of the higher levels of economic development and education in big cities, the one-child policy has been smoothly implemented there. In Shanghai, Beijing, and Tianjin, the percentages of first-order births were as high as 87.04%, 85.12%, and 78.54% respectively. In Jilin Province and Liaoning Province the percentages reached 71.48% and 60.16% respectively.(6) The decline in fertility has led to changes in family size. According to a 1982 survey in Beijing, Shanghai, Tianjin, Nanjing, and Chongqing, nuclear families accounted for 66.4% of all the families sampled, and the average family size was about four people.(7) A survey conducted by a neighbourhood committee in Tianjin shows that the average family size was 4.02 people, as opposed to the 4.48 that women reported for their natal home at time of their marriage or the 5.3 of their husband's household.(8) Comparing the data for two generations we thus can see that the average size of families has declined. Today, the family structure in China is again undergoing change. In both rural and urban areas, different generations of extended families live in separate residences, and in homes parents and children sleep in separate rooms. In general, the transition toward a nuclear family, or small family, is gradually spreading from urban to rural areas. Therefore, the ability of the family to support the aged is being challenged, and the role of the family in protecting the aged undermined.

Under the conditions of increasing numbers of nuclear and single-child families, the aging of the population makes support for the elderly an even more knotty problem. Extended families are losing their "market" in China.[2] Parents live with their unmarried children, and after marriage the children leave their parents to set up their own families... In the past, the number of children in most families was larger, and there was normally a wide gap between the age of the eldest and that of the youngest. In addition, the average life span of the parents was shorter than it is today, and some parents even died before the youngest child left home. The period of "empty nest" (when all the children had gone out to make their own living) did not last very long. Today, each family has only one or two children, and the average life expectancy is longer. If the average life expectancy is 70, the "empty nest" period will last as long as 15 to 20 years. With the extension of the life span, the years when the aged stand in need of care will also be longer.

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[1] But see the papers by Cantor and Davis-Friedmann in this volume. [Editors]

[2] This is an exact translation of the original sentence and punctuation. From the context, we assume the authors chose to use these words and the quotation marks to emphasize how declines in birth rates reduce the likelihood of large families just as reduced demand produces reduced surplus in market economies. [Editors]

The decrease in the number of children has brought more pressures to bear on the young generation in matters of supporting and taking care of the aged. The burden formerly shared by 4 or 5 children now falls on the shoulders of one or two. In rural areas, elderly peasants relied on the support of their numerous sons and daughters, and the society and the collectives only needed to care for the few elderly without responsible kin. In the future, due to the declining number of children in each family, there will be more elderly without responsible kin to be tended by the society and the collectives.

With the extension of average life expectancy, the number of people at advanced age will increase, and there will be more families with two generations of aged people. Illness is frequent among those at advanced age who are not in a position to take good care of themselves. Chronically ill elderly increase the financial and psychological pressures on their families in daily life. For instance, if there is an aged person afflicted with chronic disease(s) in the family, the other members of the family can hardly feel care-free in their work.

The single children born in the late 1970s and the early 1980s will reach the age of marriage and child-bearing at the beginning of the next century. Most will marry other single-children and leave an increasing number of aged people in the "empty nests." In particular, the number of families of aged people will increase drastically in urban areas. However, the economic conditions for fully socializing the support for the aged will not come about in the near future. In the countryside, it will be almost impossible to provide socialized support for the aged, and aged people will have to rely on their families. For a developing country like China, this is a great challenge, and the steps taken in the Chinese modernization drive to alleviate the pressures from population aging will receive worldwide attention.

V. Basic Measures to Solve the Problems of Population Aging in China

Tackling the complicated problems arising from the aging of the Chinese population is a formidable task. It is necessary to take into account the experiences of other countries and give special attention to the social conditions in China.

Solving the problems resulting from the aging of the population involves two major issues: one is the improvement of aged people's living conditions in matters of social security, means of living, spiritual life, health conditions, and extension of life span; the other refers to the relations between the aged and the other people in the society or, in other words, the issue of how to offset the negative effects of population aging so as to facilitate socio-economic development and create conditions favourable to the elderly's active participation in social activities.

The goal of our efforts to deal with these problems is the realization of "ensuring for the aged the economic necessities of life, social roles to play, opportunities to study, medical care, and recreational facilities".

Our general viewpoint is that joint efforts should be made by the government, the society and the families to support the aged. Economic development is of primary importance, since financial resources are the key to improving social welfare. At present, and for the foreseeable future, China is not economically strong enough for society to assume all welfare responsibilities. Therefore, given the existing level of economic development, the only possible way to handle the issue consists in the joint efforts of the government, the society and the families.

So that such endeavour can succeed, it is essential to integrate long-term strategic decision-making with short-run policies. These two dimensions are of equal importance to dealing with the problems, and we have to bear in mind the future and make preparations from a strategic perspective while coping with the present situation. On the other hand, overall coordination and unified planning are indispensable. All the facets of the problems are interrelated. To deal with these problems, we should take into consideration the impact of an aging population on the general process of economic, social, and cultural development and treat it as being correlated with the overall socio-economic development and the evolution of "spiritual civilization". All the government departments and grassroots social organizations, including non-governmental organizations, should set objectives on the basis of specific conditions of their own administration systems and take concerted steps to deal with all facets of the problem.

In our view the major measures to deal with the issue of an aging population are the following:

First, we need to improve productivity, expand production, and increase material resources in order to improve material conditions. This is the key to solving the problem. Only when productivity is improved can great social wealth be created and the various needs of income, health care, and welfare be met. By the end of this century, China's population will still be rather young; dependency pressures from the aged on the working age population will be low. This will be a golden period for China. Making the best of this advantage will be conducive to promoting economic development as well as to laying a solid foundation against the pressures from the increasing number of aged people in the next century.

Second, on the basis of the social conditions in China, we need to establish a feasible system of supporting aged people. Today, family support is being weakened, but the society can hardly afford to assume all responsibilities for the support of the aged. Combining the two is a feasible solution, and ... the role of family in supporting the aged should be further encouraged. However, the conventional way of family support needs to be reformed and diversified. It is essential that more effort be made to protect and strengthen the ties of family relations and to give priority to support for the aged in single child families.

Third, we need to cultivate a cultural environment suitable to the changing conditions in the face of an aging population. Effective government policies concerning all aspects of the issue are of great importance. Legal regulations should be cemented to protect the aged in matters of financial resources, medical care, and personal safety. The moral atmosphere should be reinforced, and the fine Chinese tradition of "respecting, supporting and loving the aged" should be encouraged and carried forward. Some readjustments and improvements in the social welfare, employment, medical, and education systems are needed, and relations among different age and social groups should be well coordinated in line with the changes.

China is a socialist country. We are confident that the problems resulting from an aging population will be well handled and that our goals will be fulfilled.

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THE STATUS AND ROLE OF THE CHINESE ELDERLY IN FAMILIES AND SOCIETY

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Aging is an important social and economic issue throughout the world today. It involves two aspects, aging of individuals and aging of the population. Individual aging is a question of longer life expectancy and raises the problem of how families and society can meet the various special needs of the aged so that they can lead a happy life in their later years. Aging of a population changes the age composition of a population and significantly affects the process of social and economic development.

In China, as a result of economic development..., average life expectancy has increased from age 35 prior to 1949 to age 70 today. Because of recent precipitous declines in birth and mortality rates, the growth of the elderly population has occurred much more quickly than in most other countries of the world. Between the first national census in 1953 and the third in 1982, the total population increased by 71.14%, while the population 60 and over increased by 84.5%. In 1982 those 60 and over accounted for 7.64% of the total, and those 65 and over accounted for 4.9%. It is predicted that sometime between 1994 and 1996, China will become a "country with an aged-type population."

Population aging in China is characterized by large numbers of elderly people in absolute terms. In 1982, the total number of people age 60 and over was 76 million, which is almost equal to the total number of elderly in the United States and the Soviet Union or to half of the elderly in Asia or to one-fifth of the aged in the world. In view of the large numbers of Chinese elderly, it is of great importance to study both their special needs...and their status and role in Chinese families and society. The following discusion centers on these issues.

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[1] The research and the writing of this paper were assisted by Ren Youhui, Vice Chairman of the sociology department of Beijing University; Cai Wenmen, Associate Professor of the department; and Liu Yongchuan, a graduate student of the department. I owe my gratitude to them.

I. Chinese Elderly and Their Families

.... For the aged in China, the family is the primary arena of activity and the major source of material support, daily care, and spiritual comfort. According to a 1984 survey in Tianjin, 96.4% of the aged were cared for by their spouses, children, children-in-law, or grandchildren when afflicted with illness.(3) Only 3.6% were cared for by neighbours, relatives, friends, former working units, or hired people.... However, only 43.4% of the aged in urban Tianjin lived with their children.(3) Those living separately from their children usually lived near their children and were in close touch with them.

At present, among the total population of those between 60 and 79, only 56.67% have spouses; 41.03% are widowed; and 0.95% are divorced. Furthermore, among women of this age, only 44.18% have spouses; 55.14% are widowed; and 0.39% are divorced. Among women over age 80, only 7.14% still have a spouse.

Population aging also creates many problems for the family life of the elderly. Only when these problems are well handled can the aged enjoy the remaining years of their lives and improve their status and position in their families.

The extended family with several generations under the same roof was the basic unit of production and livelihood in traditional Chinese society. The aged played a major role in family life, and this status was legitimized by the ethical doctrine that "a son should be subject to his father." In the course of social and economic development, especially in the course of industrialization and urbanization, the family situation of the aged has greatly changed.

The major change has been reduced family size.... In 1937, average household size was 5.1; in 1975 it was 4.76; and by 1982 it had declined to 4.49. It is even lower in the urban areas. By the end of 1982, the average number of people in each household in 239 cities was 4.09. In the big cities like Shanghai, Beijing, and Tianjin, the average number was as low as 3.60, 3.69, and 3.90 respectively. The reduction of family size has produced a "nucleation" of family structure. Today in China, especially in the urban areas, the nuclear family is the major form. For example, 56.6% of the aged in Tianjin live separately from their children, while only 43.5% live jointly.(3)

According to a survey conducted in three typical communities of Beijing, 100% of the aged couples who do not live with their children say that they would like to continue to live as they do, and 23.5% of those who live jointly would prefer to live separately.(1) This suggests that the "nucleation" of urban family structure is an inevitable trend.

However, the situation in the countryside is different. The 1985 summer survey conducted by the sociology department of Beijing University in the rural areas of Heilongjiang and Sichuan shows that 40% of the people surveyed regard the joint family with several generations living jointly to be ideal, though only 27.9% of the families fell into this category. In the years to come, it seems that the joint family will remain an important type for rural families. This is primarily because after the implementation of the new responsibility system, the family has returned as the key unit of production and a joint family has the advantage of bringing the potential of the aged into full play and thereby increasing income.

While the "nucleation" of family structure separates the aged from the households of their children, it does not weaken close relationships. The aged can more or less help their children by means of providing money or taking care of grandchildren, and in turn children regularly visit parents and get together with them on holidays. One of our recent surveys shows that the aged still cherish some traditional values.(1) For example, they still hold that children should follow their parents' instructions and show their respect for parents on all occasions. Yet, there have been some changes.

First, the aged have already lost their absolute, patriarchal authority, and family relations are becoming more egalitarian. A study in Tianjin shows that in 49.5% of the families surveyed, the aged have the final say in family affairs and that in 30.6% of the families, the aged either share some authority or at least listen to their children's views before having the final say.

Second, the status of the elderly declines with increased age. According to a survey among 251 elderly in Changsha city (Hunan Province), of those between 60 and 89, 61.79% are described as the family head and 38.3% are described as an ordinary member. Of those over 90, only 9% are in the position of family head; 29.1% are ordinary family members; and 61.9% are seen as dependents with no influence in family affairs due to senility and disease.

Third, remarriage among the elderly is another indication of more independence within the family. Among people between 60 and 79, 41.03% are widowed; for those over 80, the percentage is 80.94%. However, in absolute numbers, the total of elderly widows over 80 is three times as many as widowers of this age, That is, 74.34% of those over 80 who have no spouse are women. This means, first, that women have a stronger adaptability to life and a longer life span, and, second, that they are bound by the traditional view of "one marriage for life"... In recent years there has been wide-spread concern about the family life of the old, and the widowed have been encouraged to look for spouses and establish new families. Match-making centers for the aged have been set up. In the past remarriage among the aged, especially among women, would encounter great resistence from the society and family members. This new phenomenon, where the aged are encouraged to remarry, benefits the aged and enhances their status and role in family life.

Fourth, the number of "five-good families" is increasing and new family relations are emerging.[2] Encouraging people to strive for building up "five-good families" has been regarded as one of the important aspects of constructing the socialist "spiritual civilization". In 1983, twelve thousand families in Tianjin earned the title of "five-good family." In these families, the juniors respect the seniors and the seniors care for the juniors. Family life is harmonious and there is a pleasant family atmosphere for the aged. Of the 1,000 aged surveyed in Wuhan, 82.5% got along very well with their children, and of the 681 aged surveyed in Shanghai, 94.4% were "treated well" or treated very well" by their children.

Fifth, the aged still occupy a significant position in their families. According to a survey in Tianjin, 98% of the aged are respected by their children.(3) Surveys in other places show that in many joint families the aged still remain as the head of the family.

The sustained role and status of the aged in family life is, first of all, the result of the Chinese historical tradition and the socialist system. Respecting the aged and showing filial obedience to parents are traditional Chinese virtues. Disrespect for the aged and unfilial behaviour to parents are censured by public opinion. The policies and legal stipulations in new China also encourage people to respect the aged. The thirteenth item in the marriage law enacted in 1950 stipulates that "parents bear the responsibility of rearing and educating their children, and children bear the responsibility of supporting and helping their parents. Neither party can maltreat or forsake the other." This has been rephrased in the new marriage law enacted in 1980 as "when the children do not fulfil their responsibility of caring for their parents, parents who are unable to work have the right to ask their children to support them." These regulations reflect the socialist principle of protecting the aged.

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[2] Both before and after 1949 the leaders of the Chinese Communist Party have held emulation campaigns within the civilian population to identify and reward exemplary individuals and small groups. "Five-good families" are families selected for outstanding performance in public and private life. The exact five characteristics that make a family worthy have shifted over time, but in all periods they are families where all members are patriotic, hard working, and unselfish in their work and simultaneously maintain harmonious relations at home. [Editors]

There are various systems for supporting the aged in China. In the countryside, the aged possess sufficient means of production and can continue to work in old age, only partially depending on their children. In urban areas, retirees have regular incomes. They are not "burdens" to their families; rather, they often provide extra financial resources for their children. Among families of veteran high-ranking cadres, the retirees' pensions are a major source of income. According to one 1982 survey in Beijing, most veteran cadres' incomes exceeded the average per capita income in their families.(1) In another 1984 survey of the veteran cadres in Beijing, 71.82% received salaries ranging from 80 yuan to 150 yuan, which were by and large higher than their children's salaries.

At present, Chinese cities suffer from an acute housing shortage. Young employees with only short work histories are in a poor position to get a housing assignment. As a result, many live with their parents, and among children of veteran cadres the dependency is especially pronounced. A survey conducted by the psychology department of Beijing University shows that all the veteran cadres living with their children continue to be in the position of family head.

Reliance on parents also is wide-spread among ordinary families. The majority of the aged are still "rather young." For example, in Beijing, 60.7% of the elderly are between 60 and 69. They cannot only take care of themselves, but they also help their children with shopping, cooking, and baby-sitting.

Because of the Chinese tradition of respecting the aged and the socialist system, the aged are respected by their children and, in many families, have even remained in the position of family head. Those elderly living separately from their children are also frequently visited and cared for by their children.

Certainly, equality and harmony are absent in some families, and in some, the aged parents are regarded as burdens or even maltreated. In one survey in Tianjin, 8.2% of the families reported poor relations.(3) Problems mainly arose out of conflicts over disposal of money, personal habits, housework, housing conditions, and moral attitudes and values.

In general, the family is still the central support for the aged in China. Thus, in the course of the "nucleation" of the family structure and the shift away of the elderly from patriarchal authority, the traditional Chinese virtues should continue, and the superiority embedded in the socialist system should be realized so that every child respects the aged and supports his or her parents. In this way, the aged can enjoy the real pleasure of family life and spend the rest of their lives in happiness.

II. Chinese Elderly and the Society

Retirement means withdrawal from one's original work place. It is an important turning point affecting an elderly person's status and role. This is especially true of veteran cadres. According to one survey in Beijing, some of them feel that "it is not as easy as before to get things done" and that "the tea gets cold once you are out of the scene."(4) A survey in Harbin indicates that 32% feel that they are not as well treated by their former colleagues as before and that their social status has declined.(2) After retirement, they have few opportunities to get involved in decision-making and lose any chance of promotion.

For workers, pensions equal about 70% of their previous salaries.[3] Thus, after retirement their financial situation is worse than before. However, even though their social status has changed, the pensioners receive credit for their past contributions and can continue to play a social role. A survey on the aged in Tianjin suggests that 84% of the aged felt they were "highly repected" or "rather respected" in the society.(3)

The Third National Census in 1982 reported 80 million people age 60 and over. This group falls into three economic categories. First are those who have no financial sources, who can not work, who can not take care of themselves, and who have no family members to take responsibility for them. They must rely on society. In the countryside, there are about 2.61 million such people, and in urban areas the number is about 0.226 million. They account for 4% of the total aged population.

Second are the rural elderly who have family members to care for them or who can support themselves. They number about 70 million or 80% of the aged. They have rather close ties with their children and families.

Third are urban employees and veteran cadres. These people receive monthly pensions. It is estimated that at present this group exceeds 12 million, including over 1 million veteran cadres. This group now represent 16% of the aged population, and it is predicted that the number will increase by over 1.2 million each year in the near future.

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[3] As of 1978, all state employees with 20 years experience, could retire at 75% of their last wage, and model workers received an additional 5-15%. By 1986, many cities had increased the replacement ratios for the childless and those with 30 years or more work experience. In Guangzhou and Shanghai, those with 30 years work experience retire with 90% of their last wage, and the childless receive 100%. Furthermore, in addition to their pensions, all retirees receive a city-wide old age subsidy equal to 25-50% of the pension. [Editors]

It has been proposed in China that the aged be guaranteed "the economic necessities of life, social roles to play, opportunities to study, medical care, and recreational facilities." Economic welfare and medical care are the two primary concerns of the aged. China meets these needs either through such "concentrated support" as old age homes or through "scattered support" by family or relatives in the neighbourhood. In 1983 there were 14,047 old age homes in the countryside, accommodating about 169,000 residents. These people have the same rights as other citizens and receive great attention from the society. The government or the collectives provide these people with food, clothing, housing, medical care, and funeral expenses. Those who can not take care of themselves receive care from specially hired people. In the urban areas, the Ministry of Civil Affairs runs welfare homes or old age homes that accomodate about 60,000 aged people. Except for a few pensioners who pay their own expenses, most of those living in old age homes have no independent means of living. In some areas, home-care services have been initiated. For example, in the Dashuiyu village in the Xizhuan township (xiang) of Huairou county in the Beijing suburbs, a "five-guarantee" group has been set up to help the aged carry water, cook, clean rooms, and wash clothes. In Shanghai, 1,880 small groups consisting of 3,797 individuals provide care to 1,880 elderly in 74 neighbourhoods. Today, throughout the country, all the elderly without responsible kin receive what they need and spend their later years in happiness, owing to the respect and care they receive from the society.

Under the socialist system, the aged are guaranteed the same status as other citizens. In both the first Constitution of the People's Republic of China enacted in 1954 and the present new constitution, it is provided that the citizens have the right to get material support from the government and the society under the circumstances of senility, illness, disability, and loss of the ability to work, and that the government should provide the necessary social security, social relief, and health services. In line with the stipulations of the constitution, the government has set up a retirement system for employees in state-owned enterprises, government departments, and institutions.... According to a 1984 survey on retired employees in Tianjin, 25.7% of those questioned felt their pensions exceeded their needs; 68% thought the pensions were adequate; and 6.3% felt that their income could not provide a basic means of living....(3) Thus, we can say that 97.5% of the aged are satisfied with the present support system for the aged in China.(3)

For the aged in the countryside who account for 80% of the aged population in China, there is no unified pension system. Those over 60 years work as long as they are able to. Either relying on themselves or supported by their children, most have no serious problems with their livelihood. In the rural areas where the economic conditions have greatly improved, retirement systems are in the making. Since the responsibility system of agricultural production based on contracts was initiated in 1978, pilot programs have been run in some areas to establish reserve funds for the aged, old age insurance, and cooperative home-care. With the development of the rural economy and the increased size of the aged population in the countryside, it has become imperative to study and reform the support system for the rural elderly.

Some steps have been, or will be, taken to cope with the issue of aging insurance for non-agricultural workers outside the state sector. Coverage for employees in county or district-run collective enterprises, as well as the self-employed individuals in urban areas and the temporary workers in the joint ventures with Chinese and foreign investment, is now being developed.

To further protect the livelihood and social status of the aged, various government offices and departments handling the affairs of the aged are working to "ensure for the aged opportunities to study and enjoy recreational facilities." There are currently 61 old folks' universities in the nation, and if branch campuses are included, the total number exceeds 100, with 30,000 students enrolled. In addition, many old age centers have been set up in various places to provide recreational facilities for the elderly. In 1985, over 800 such centers were established in Beijing alone.

As the average life expectancy has increased, the physical condition of the aged has also improved.... According to a survey in the Western District of Beijing, 83.7% of the aged can take care of themselves in daily life.(7) These aged people are eager to have "a role to play," and with the expansion of the service sector and progress in science and technology, more opportunities have been made available... "Ensuring social roles for the aged" is not only necessary but is also possible.

In the near future, the number of retirees will greatly increase, and the cost of pensions will place increasing pressure on the society. "Letting the aged have a role to play," therefore, is an effective means to alleviate such pressure. A 1984 survey in Tianjin shows that 27.4% of the retired had returned to work.(3) The aged in China are not merely a group respected and supported by the society; a large number can continue to participate actively in China's socialist modernization drive.

At present, the aged in China contribute to the society in many ways. They conduct surveys and provide consulting services for their former units or other units. They use their expertise to provide technical services. They help the unemployed youth to run businesses and help the enterprises in rural or urban areas handle technical problems. They voluntarily pass on knowledge to the young and engage in the construction of the socialist "spiritual civilization", and they give full play to their talents by writing, translating, and practising medicine.(4)

According to a 1984 survey by Beijing University on veteran cadres, most retirees engage in social work by assuming the leadership of grassroots neighbourhood committees. About 22% of those surveyed are engaged in this work. In the past, the neighbourhood committees were mainly run by housewives. Now the retirees have taken over. Currently, 80% of the neighbourhood committee members in Beijing are retired employees or veteran cadres. This has not only improved the quality of leadership in grassroots social organizations, but has also strengthened the residents' autonomous power in urban administration. The neighbourhood committees in urban areas are independent "mass organizations." Their major functions are centered on public affairs and provision of such public services as reforestation, traffic patrols, education of adolescents, mediation of civil disputes, and management of service centers. In providing these services, the aged in China are playing an important supplementary role in administering cities and upgrading the quality of residential life.

.... By providing technical services for the flourishing urban and rural small enterprises, some aged technicians have improved their personal social and economic status. Thus, their ability to "have a role to play" after their retirement has greatly improved their social status. However, the reemployment of the aged has been mistakenly taken by some people as a threat to employment opportunities for the young. This is actually not the case. On the contrary, for example, the consulting services and training programs run by some ex-businessmen under the sponsorship of the Association of Industry and Commerce have created employment opportunities for the unemployed youth.

However, many of the aged of the present generation do not have a high-level education, nor much technical expertise. They need more education before they can be reemployed. But very few facilities have been established for this purpose. Therefore, we can not go too far in this direction, and the issue of "ensuring social roles for the elderly" needs to be studied further.

III. Conclusions

In traditional Chinese society, the aged occupied an important position and played an important role in their families. Under the impact of industrialization and urbanization, their overall status, as well as the way in which they play their roles and the roles themselves, have begun to undergo some changes. In family life, relations between the aged and their children have become more egalitarian. The independence of the young has increased, and the aged do not have to adhere to the belief that "one raises children to create security for old age." All this indicates social progress.

In a modernizing China, the traditional values of "respecting and supporting the aged" and the superiority of the socialist system guarantee that the aged are respected at home as well as in the society, and that their basic means of living are secure. In addition, the elderly can continue to play their role within the scope of their abilities.

From the discussions in the preceding sections, the following points can be summarized:

First, the family remains the basic unit of livelihood for the aged. The Chinese economy is not well developed, and the population is large. Thus, the basis for social support for the aged is far from being solid. Therefore, the aged must still rely on their families.... However, social welfare establishments should be expanded and a social security system built up gradually so that pressures on families can be reduced in the face of the impending, rapid increase in the aged population.

Second, "ensuring social roles for the elderly to play" is one way of realizing the potential of the aged and confronting the problems arising from the large number of elderly....

Third, the goals of "ensuring the economic necessities of life, medical care, opportunities to study, recreational facilities, and social roles to play" are interrelated. Guaranteeing the basic means of living and medical care are the most fundamental. In view of the fact that among the aged in China general levels of education are rather low, "ensuring social roles for the aged to play" has to be based on "ensuring opportunities to study." "Ensuring aged recreational facilities and social roles to play" can thus in turn reinforce efforts to "ensure the economic necessities of life."

Fourth, the issue of aging in China should be handled through the joint efforts of the government, the society, the collective, and individual families. Support for the aged should not be limited to the provision of material necessities, but also should include daily care and enrichment of their spiritual life. At present, the material support for the aged comes from their families, the government, the collectives, or the society. In the modernization process, support from the society should be increased. Yet, families should play the major role in caring for the aged and enriching their spiritual life.

Fifth, efforts should be made to carry on the fine Chinese tradition of respecting and supporting the aged and to bring into effect the superiority of the socialist system so that a unique way of supporting the aged can be developed. The fine Chinese tradition should be geared to the dynamics of modernization. This is essential both for handling the issue of aging in China and for contributing to the world.

Endnotes

(1) The questionnaire survey were conducted by Lin Lenong and Geng Kun of the Beijing Institute of Social Sciences in 1982 in the neighbourhood committees of the 7th and 9th lanes, Dongsi, the neighbourhood committee of the State Council Quarter, Yuetan, and the neighbourhood committee of the First Quarter of the Ministry of Railways, all in Beijing.

(2) Surveys of retired cadres conducted during 1983 and 1984 by the Sociology Division of the Harbin (Heilongjiang Province) Institute of Social Sciences.

(3) Survey of the aged in Tianjin city conducted in April 1984 by the joint survey group sponsored by the General Office of the Tianjin Municiple Govenment, the Tianjin Academy of Social Sciences, and the Tianjin Committee on Aging.

(4) Survey of veteran cadres in Beijing conducted in August 1984 by the sociology department of Beijing University.

(5) Hu Junzhen, "A Preliminary Analysis of the Factors Affecting Elderly People's Sense of Gratification", Journal of Gerontology, no. 4, 1985

(6) The summer survey on rural families conducted in 1985 by the sociology department of Beijing University in Heilongjiang and Sichuan.

(7) A survey of 1,773 aged persons over 60 conducted in October 1984 by the Committee on Aging of the Western District of Beijing.

FAMILY PLANNING AND POPULATION AGING IN CHINA

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Since the early 1970s when effective steps were initiated in China to implement family planning, birth rates have been on the decline. In 1979 a program of "one couple one child" was started, and since then fertility rates have plummeted. In 1981 TFR was 2.6, and by 1984 it had dropped further to 1.9, lower than the level of population replacement.(1) However, the issue of population aging has caused wide concern. Shanghai has taken the lead in the nation in becoming an area with an aged population. At present the proportion of people 65 and over is close to 8% of the total population. Beijing, Tianjin, Zhejiang, and Jiangsu are catching up and will have aged populations by the 1990s. In the face of the declining fertility rate and the imminent onset of an aged population, relations between family planning and population aging in China have been widely discussed. Some people point out that the "one couple one child" policy will dramatically accelerate population aging and create a formidable situation. Others contend that the percentage of people 60 and over in 1982 was only 7.65%, lower than that of France in 1788, Sweden in 1860, or Britain in 1910.(2) Therefore, they argue it is premature to relax family planning efforts out of fear of an aging population. In view of these arguments, it is necessary to interpret scientifically the relationship between family planning and population aging in China.

I. Family Planning: the Key Factor Behind the Accelerated Pace of Population Aging

Population aging in China is the logical outcome of a demographic transition that began in 1949. At first, mortality rates declined sharply. Twenty years later, birth rates began to drop.... Thus, in the 1950s and the 1960s mortality rates had already drastically declined, the median age was falling, and the age composition of the population was actually becoming "young." This fact is a clear indication that population aging in China can not be attributed to the decline in mortality rates, nor to the extension of the life span. Rather, the significant trend toward aging of the population reflected in the 1982 National Census should be interpreted as the result ... of a twelve-year decline in birth rates beginning in 1970. The following table illustrates this transition:

Table 1. Age Indices from China's Three National Censuses and Japan

	China			Japan
Age	1953	1964	1982	1955
Total	100.0%	100.0%	100.0%	100.0%
1-14	36.3	40.7	33.4	33.4
15-64	59.3	55.7	61.7	61.2
65+	4.4	3.6	4.9	5.3
Old as % of Young	12.1	8.8	14.7	15.9
Median Age	22.7	20.2	22.9	23.6
Mean Age	26.5	24.9	27.1	27.6
Birth Rate	37.0	39.0	21.1	19.5
TFR	6.1	6.2	2.6 (1981)	2.4
Mortality Rate	20	11.5	6.6	7.8

Sources: The figures for China are derived from the three National Censuses and the One in a Thousand Fertility Survey; the figures for Japan are derived from Population of Japan.

.... Today, Japan has the most rapidly aging population. Comparing the shape of the age pyramid of Japan at the time when the process of population aging was started (1955-1960) with that of China in 1982, we can see that the process in China is quite similar to that in Japan.... The age composition and the mean age of China are almost the same as those of Japan in 1955, and the birth rates and the TFRs are very close. Thus, the aging of the population in China is similar to that in Japan. The only difference is a time lag of about 25 years. If family planning in China can be as successful as that in Japan in bringing the birth rate down to or below the population replacement level, it is likely that population aging in China will proceed along the same lines as in Japan.

The key role of family planning in the process of population aging can be seen in the timing of the family planning programs and the extent of the decline in birth rate, both of which are directly related to the speed and extent of population aging. Shanghai is the first area in the nation to become an area of aged population. This is not by accident. Shanghai is also the place where family planning was first implemented, and it is the only place where the family planning programs have proceeded with little interruption since initiated in the 1960s. As of the 1982 Census, the birth rate was 16.1%, and the TFR was 1.32. Both were the lowest in the nation. It is possible that the speed and the extent of population aging will be even greater in Shanghai than they were in Japan.

Population aging is proceeding very differently in urban areas, and among Han and non-Han ethnic groups(see Table 2)....

Table 2. 1982 Age Indices Broken down by Region and Ethnicity

	National	City	Township	Village	Han	Minority
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
0-14	33.6	26.0	28.4	35.4	33.2	39.2
15-64	61.5	69.3	67.4	59.6	61.6	57.3
65+(%)	4.9	4.7	4.2	5.0	5.2	4.5
Old as % of Young	14.5	18.1	14.8	9.3	15.7	11.5
Birth Rate (1981)	20.9	16.5		21.6		
TFR (1981)	2.6	1.4 (1979)		3.1 (1979)	2.5	4.6

Sources: (1) The Third National Population Census; (2) The One in a Thousand Fertility Survey.

The difference in the percentage of the aged between urban and rural areas seems to suggest that the extent of aging in rural areas is higher than that in urban areas. Yet, if the ratio of old versus young is taken into account, the extent of aging in urban areas will appear much higher than that in the rural areas. As a matter of fact, the extent of population aging in urban areas is higher than that in rural areas. The increase in the ratio of old versus young in rural areas is caused by the migration of young and middle-aged workers to urban areas, which has greatly reduced the proportion of working age people in the rural population. Thus, it is not appropriate to come to the conclusion, on the basis of only one indicator, that the extent of aging in the countryside is higher than that in the urban areas.

The significant difference in the ratio of old versus young between urban and rural areas can be explained by the fact that family planning has been more effectively implemented in urban areas as a whole. This is more evident if the figures of big cities are compared with those of rural areas; the ratio of old versus young in big cities is twice as high as that in the rural areas. Likewise, because there is more flexibility in matters of family planning for minorities than for Hans, the fertility rate among the minority groups is higher than that of Hans, and as a result, the minority population as a whole is younger than the Han ethnic group.

Taking the nation as a whole, we can see that in the provinces, cities, and townships where family planning programs have been well implemented, the extent of aging is much higher than in those provinces (or autonomous regions) where family planning programs were started later and the decline in birth rate is not significant. Table 3 shows the 1982 Census figures for the provinces and cities with the youngest population and those with the most aged population...

Table 3. Age Indices of Beijing, Shanghai, Tianjin, Jiangsu, Ningxia, Qinghai, Guizhou, and Xinjiang in 1982

	Areas of High Extent of Aging				Areas of Low Extent of Aging				Range
	Shanghai	Beijing	Tianjin	Jiangsu	Ningxia	Qinghai	Guizhou	Xinjiang	
0-14 (%)	18.1	22.1	24.2	29.0	41.4	40.7	38.7	39.7	23.3
15-64 (%)	74.5	72.2	70.2	65.5	55.3	56.5	54.6	56.6	19.9
65+ (%)	7.4	5.6	5.5	5.5	3.3	3.7	4.7	3.7	4.7
mean age (years)	33.2	30.8	29.9	28.9	23.4	23.9	25.0	24.6	9.8
median age (years)	29.3	27.2	26.0	25.5	18.3	18.4	18.8	19.5	11.0
dependency ratio (%)	34.2	38.4	42.4	52.8	80.8	97.0	83.0	76.8	48.9
dependency ratio of youth (%)	24.3	30.6	34.5	44.3	74.9	72.2	74.4	70.2	50.6
dependency ratio of the aged (%)	9.9	7.8	7.9	8.5	5.9	4.8	8.6	6.6	5.1
old as % of young (%)	40.8	25.5	22.8	19.1	7.8	6.6	11.6	9.4	34.1
birth rate (%)	16.1	17.6	18.6	18.5	29.7	26.7	27.9	29.7	13.5
TFR	1.32	1.59	1.65	2.08	4.12	3.93	4.36	3.86	3.0

Sources: (1) The Third National Population Census; (2) The One in a Thousand Fertility Survey.

It should be pointed out here that though the decline in fertility has led to the aging of the population, it is not appropriate to lift the controls over child-bearing during the next 15 years for the purpose of alleviating the pressures of population aging. Were we to do so, both the top and the bottom of the age pyramid would expand. We would then confront a phenomenon called "overweight at both ends" and create even more difficulties for a country of 1.05 billion people which suffers from low per capita allocations of arable land, water, timberland, and pastures.

II. Some Neglected Underlying Relations between Family Planning and Population Aging

More and more people have come to realize that family planning has produced population aging... However, some other aspects of the relationship between family planning and aging, especially the fact that population aging will in turn curb family planning, have not received wide attention. It seems to me that at least the following aspects should be taken into consideration.

First, the impact of family planning on the mortality rate affects the process of population aging. In each year of the baby boom, 58% of additions to the total consumption fund were consumed by the newborn population. Only the remaining 42% of the annual increase could be used for improving the living conditions of the rest of the population. In such a situation, improvements to the health conditions of the adults and the aged were limited. As a result, there arose a contradiction between "rearing kids" and "supporting the aged" in matters of allocating consumption funds at both the macro and the micro level. In individual families, the parents and grand-parents had to accept very austere living conditions in order to raise more children. Family planning and the decline in the fertility rate thereby have contributed, directly and indirectly, to the improvement of the living standards of the older generations, which in turn is conducive to lowering the mortality rate and extending the average life span.... On the other hand, one aspect of the family planning programs is to stress good care of the new born. Thus, this emphasis on "securing the life of every newborn" will lower the mortality rates of infants, children, and adolescents and thereby slow down the process of population aging.

Second, while the implementation of family planning depends in part on adopting proper measures to take good care of the aged, well implemented family planning programs in turn create the conditions favourable to tackling the challenges of an aging population.

At present, public attention is focused on the contradiction between family planning and population aging, but the complementary interfaces between them have not been noted. Recent surveys on the attitudes toward fertility in urban and rural areas show that there have been great changes in the views of people on the issue of child-bearing. Some peasants have even given up the traditional belief that more children increase one's wealth. However, the idea of "raising children to guarantee security in old age" remains the major reason why people in urban and rural areas try by every means to have more children or to have at least one boy. As is indicated in some surveys, this idea is shared by over 50% of those questioned. The experience in some areas suggests that in those areas where effective efforts have been made to guarantee financial security and medical care for the elderly..., family planning programs are well implemented... Furthermore, lower birth rates reduce the share of wealth allocated to newborns, thus making it possible to spare more resources for the improvement of the welfare of the aged.

Third, the extensive population aging predicted for the next century is, at least partially, the result of the large numbers born when birth control was not in effect. Thus, rapid population aging should not be attributed to family planning. On the contrary, it is the result of the lack of family planning.... Those born in the period between 1950 and the mid-1970s enter old age betweem 2010 and 2025, and the entire cohort will be old by 2045. At that time the number of elderly people in China will reach ... "the peak of aging." By our estimation, there will be between 300 and 350 million people 65 and over in the middle of the next century. This is an irreversible trend, since these people have been born, and we can presume that most will reach old age. The emergence of this group of people is in no way related to the extensive family planning programs in recent years. As a matter of fact, they were born in years devoid of birth control.

By the end of this century the TFR will approach the level of the United States and Japan, and in the next century, China will reach the level of population replacement....

Fourth, the orientation of family planning quantitatively affects the speed as well as the extent of population aging.... Thus, the impact on population aging should be taken into account when selecting family planning programs. Any family planning program that produces an excessively high rate of aging is not acceptable. Thus in China, the "one couple one child" policy should by no means be viewed as an unchangeable rule.

Fifth, both family planning and population aging are the road one must take, and the contradiction between them can be mitigated.

One hundred years ago, no one recognized the pressures of population aging. Only at the beginning of this century when population aging became somewhat conspicuous in the countries where fertility rates had dropped from high to low, did it begin to receive much attention. In essence, this is the corollary of increaed productivity. With greater productivity, social development, progress in science and technology, and improvement of medical facilities, mankind is more able to control nature and produce mortality rates declines. The decline in mortality makes both society and families need fewer births. Also, it is a necessary condition for social development that human beings consciously limit births.... This is an inevitable trend of social development. Sustained low rates of birth eventually produce a progressively aging population. This is an objective trend. At present, we can predict that the situation of population aging faced by the developed countries today will confront the developing countries tomorrow. Therefore, population aging is, in the final analysis, an integral transitional phase in the process of population growth.

Low birth rates are essential to social development despite the fact they produce an aging population. There exists a limit to the decline in the birth rate. Population might grow at a very low rate, but it can neither grow endlessly nor decline without any limit. The size of the total population in the world will eventually stblize with a low birth rate, a low mortality rate, and a long life span. This point is described as "zero population growth" or, sometimes, "stationary population," which is the inevitable end-result. In a stationary population, birth rate, mortality rate, average life span, and age composition do not fluctuate very much. Likewise, the percentage of the aged, the ratio of old versus young, median age, and mean age are almost constant. As more and more of the world's population conforms to this pattern, population aging will approach its limits. According to current demographic calculations, in a stationary population where average life expectancy is 77.5 for both males and females, both birth and mortality rates would be 12.9%; the percentage of the aged would be 18.5%; the percentage of the children between 0 and 14 would be 19.5%; the ratio of old versus young would be 95%, and the mean age would be 40.(3) Due to the effect of the inertia of population growth, it is possible that some of these indicators will depart from these predictions, but in the long run, it is not possible to go too far beyond these limits, since a birth rate can not be sustained below the level of this pattern. However, as the average life expectancy increases, the other indicators will vary accordingly.

A family planning program aimed at controlling the size of the population speeds up the process of population aging. This is an undesirable side-effect. Yet, it appears that the role of family planning is in other respects positive. It can work as a means of balancing and regulating the speed and extent of population aging.... Family planning makes it possible to deliberately keep population growth on a planned track and therefore creates conditions favourable to a rather early and ideal completion of the transition toward a stationary population....

Thus for example, if we construct hypothetical population pyramids for the year 2032 under different fertility assumptions, but identical mortality assumptions, we will see very different age compositions for the total population.[1] If we assume a TFR of 1.5 for 1987-1992 and 1.2 for 1992-2030 (the TFR of a totally successful implementation of the "one couple--one child" policy), by 2032 the population pyramid would resemble an "inverted Christmas tree." If we assume a TFR of 1.7 for the entire period, the population would resemble a "blunted arrow-head" with a bulge among those age 70 to 79 and 35 to 44. If TFR were 1.7 for 1987-2022 and 2.0 for 2022-2032, the result would be an even more blunted base than in model 2. And finally, if the TFR were 2.0 for the entire period, there would be a very blunt base, with pronounced "bulges" among the middle aged and old.

From the above models we can see that different TFRs produce different age compositions... Model 3 seems to represent a path conducive to managing the population born in the baby boom such that the transition toward stationary population can be accomplished earlier and the degree of population aging moderated. In this way, family planning can coordinate interactions among population size, age composition, and population aging and also integrate all the contradictory aspects into one feasible solution. According to the prediction of model 3, by the end of this century the birth rate in China can be brought to the current level of Japan or the United States, and during the next century population replacement will be reached. Thus, the "one couple one child" policy should be interpreted as being a special measure to cope with the aftermath of the big baby boom between 1962 and 1975.

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[1] In the original paper there were four hand-drawn population pyramids. Unfortunately, because they lack exact, numerical calibration, it was not possible to reproduce them for the English translations. We have therefore inserted a written summary to compensate for the loss of this material. The fertility assumptions are given in the text; the consistent mortality assumptions are an initial male life expectancy of 66.0 years, increasing to 71.2 in 2032, and an initial female life expectancy of 67.5, increasing to 72.5 in 2032. [Editors]

References

(1) All the data in this paper, unless otherwise noted, are from the Third National Census or the 1982 One in a Thousand Fertility Survey.

(2) *Jiankang Bao* (*Health News*), November 22, 1985

(3) United Nations, *Population Aging and Its Socio-economic Implications*, 1956

PART III

PATTERNS OF SUPPORT IN OTHER COUNTRIES

THE IMPACT OF DEMOGRAPHIC CHANGE ON THE FAMILY LIFE OF AMERICAN ELDERLY

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INTRODUCTION

Over the past century American society has dramatically aged. Since 1900, the number of people over the age of 65 has grown nine-fold, and the percentage of the population who are elderly has nearly trebled.[1] At the same time, the pattern of household composition has radically changed. In 1900, unmarried adults of any age rarely lived alone and among both married and unmarried elderly, the typical household included at least one adult child. By 1980, however, single people of all ages frequently lived by themselves, and among elderly women households of one person had become the norm.(Thornton and Freedman).

Statistics such as these have suggested to some observers of American society that the demographic revolutions in mortality and fertility in the first half of the twentieth century have destroyed the family life of American elderly, leaving them isolated from their children and adrift in a ghetto of familyless individuals. The two primary purposes of this paper are (1) to counter this commonly held stereotype of lonely elderly bereft of kin, by introducing research on the family life of American elderly conducted between 1950 and 1980 and (2) to explain in some detail how changes in life expectancy and fertility have increased rather than decreased the kinship resources of the majority of elderly Americans.

AN OVERVIEW OF FAMILY LIFE

Today only a small minority of elderly Americans live with their children, and in general the older the person, the less likely he or she is to live with a child. Among men over the age of 65, the pattern is to live with a wife in a household of two adults. Women, by contrast, who generally marry men older than themselves and who as a group have higher life expectancies than men, can expect to be widowed and spend nearly a decade living alone. Among women who never marry, or divorce in their forties, it is common to live alone for twenty or thirty years.[2]

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[1] In 1900 there were 3.1 million people over the age of 64, representing 4% of the total population; in 1983 there were 27.4 million representing 11.4% (AARP).

[2] Living arrangements for Americans 65 or above (Thornton and Freedman)

	Married			Unmarried		
Year:	1900	1962	1975	1900	1962	1975
Alone/ spouse	29%	79%	84%	11%	48%	67%
Married child	16%	2%	1%	38%	14%	7%
Unmarried child	42%	15%	10%	27%	20%	10%

But what does the predominance of small, one-generational households among those over age 64 mean about the quality of family life? Does it mean that American children no longer help their parents in old age, and that relations between the generations are becoming increasingly weak or even hostile? Repeated surveys on the quality of family life over the past thirty years document no such negative trends. On the contrary virtually all studies confirm a strong sense of obligation among the young to care for disabled parents, as well as a very active pattern of visiting and exchange of gifts and money. Thus, for example, two large surveys in the 1950s (Shanas (1960)(1965)(1968);Streib(1965)) found that less than 5% of parents or children reported no contact, and over 80% had actually seen a child within 7 days of the interview. A nationwide survey in 1974 (Harris) documented an identical pattern for the early 1970s. And small community studies done in the 1980s (Campbell and Brody; Horowitz; Murtran; Moss; Scott and Roberto; Taylor; Wolf) continue to document high rates of support and exchange,indicating that even as the elderly population has grown and the percentage of very-old increased, The American elderly and their adult children have maintained rates of contact similar to those reported thirty years earlier.

PATTERNS OF VARIATION

Within this overall pattern of strong family ties, there are as many as 20% who are isolated--not by choice but because their family ties have atrophied or broken down. However, in most of these cases, problems did not begin in old age but instead were a legacy of physical abuse, alcoholism, desertion, or premature death which damaged family ties during middle-age and thereby left the person alone and isolated in the last decades of life. (Glasser and Glasser; Nimkoff)

But even among the majority of elderly who have good family relationships, some have closer ties than others. In general, American kinship has been bilateral (favoring neither males nor females). But as the economy has shifted out of farming, a slight bias in favor of females has developed over the twentieth century. Elderly mothers report stronger ties and higher rates of interaction than elderly fathers, and daughters are more involved in the lives of elderly parents than are sons. In part this bias toward women is a consequence of the higher rates of widowhood among females and the emphasis on household centered visiting and exchange of domestic services and nursing care as the focus of parent-child contacts. As family life in the United States has become centered around leisure activities and emotional exchanges rather than economic production and joint living, ties between mothers and daughters have become the fulcrum of intergenerational relations.

The central role of mother-daughter ties does not deny the possibility of good relations for fathers and sons. Family ties are important to the well being of elderly men, but because most elderly men are married and can turn first to a wife for care (while most women in need are widowed), many American men seem to move to the periphery of family relationships, while their wives remain at the core.

Sons also can be close to their parents, but traditionally their support has been more instrumental and less direct than the help given by daughters. Moreover in cases where elderly parents do turn to a son and his family for help in the home, it has often been the daughters-in-law rather than the sons, who have taken the main responsibility. Some sons, of course, do provide daily care in times of long disabling illnesses (Horowitz). However, sons who report the highest levels of involvement are usually either only children or have no sisters. Thus, in general, it is daughters rather than sons who are assumed to be the more reliable and important source of aid in old age (Adams; Albrecht; Hochschild; Komarovsky; Nimkoff; Smith; Sweetser)[3]

FUTURE TRENDS

The overview of family life presented here is based on data gathered in the past. Moreover, it reflects family relationships that were created under the demographic, economic, and cultural conditions of the first three or four decades of the twentieth century. As we go toward the twenty-first century, the basic supports of family life will be different from those of the past. The elderly of the next five decades will come from smaller families, and there will be fewer siblings to call on in times of need.[4] Higher divorce

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[3] The 1950 national census reported that in families where elderly lived with a married child, in 60% of cases the child was a daughter. In terms of the bias in favor of daughter, frequencies reported by Komarovsky in her 1957-59 study of working class families in a large metropolitan area in the Northeast document the pattern clearly:

	Hostile Relations		Very Close Relations	
	Men	Women	Men	Women
With father	25%	16%	27%	34%
With mother	9%	18%	43%	62%

[4] A key distinction many researchers fail to make is the difference between average number of children born per woman and the average family size of children. Because 15-20% of a birth cohort will be childless or have only one child, average family size of children will usually be significantly higher than average fertility. In the US, where fertility rates have fallen faster than average family, the result has been that even when Total Fertility Rate(TFR) rose in the 1950s, the average number of siblings was declining.

rates and declining rates of marriage in the 1980s also may foreshadow a major shift in the strength of family ties for the elderly (Bennett et.).[5] But based on an examination of how demographic changes in the first half of the twentieth century served to strengthen rather than weaken the overall family position of the elderly population, it seems likely that in the next two or three decades American elderly will continue to experience strong ties with their adult children.

In short, the experience of the past was that over the twentieth century, kinship networks grew more uniform as a higher percentage of people could expect to live to age sixty-five, be married, and have two or more surviving children. For example, among white women born in 1900, 80% would be expected to survive to age 20 (presumed age of first marriage), 65% would survive to complete child-bearing (age 45), and only 44% would be expected to survive to retirement (age 65). By contrast, for those born in 1953, it is expected that 97% will live to age 20, 94% to age 45, and 79% to age 65 (Bogue:191).

To the extent that these major increases in the percentage of people living to critical points of family formation continue to surpass the levels of earlier decades, one would predict that current demographic trends will also favor uniformly high levels of survivorship and that it will be economic and cultural changes, rather than new rates of mortality and fertility, that will alter the character of family life.

CONCLUSION

Between 1900 and 1980, life expectancy at birth doubled for non-whites and increased by nearly 50% for whites.[6] Three-quarters of all deaths now occur

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TFR OF WOMEN 45-49		AVE.FAMILY SIZE OF THEIR CHILDREN
1890	4.9	7.7
1940	2.6	5.3
1970	2.7	4.4 (Source:Preston)

[5] In 1900 and 1980, there were comparable rates of marital dissolution, but the cause dramatically shifted from death to divorce.

	1880	1900	1940	1960	1980
Total N of dissolutions /1000 pop.	34	32	29	28	41
By death	32	28	20	18	18
By divorce	2	4	9	10	23

(Source:Thornton and Freedman:7)

[6] Life expectancy at birth:

White	1900	1980	Non-white	1900	1980
male:	48.2	70.7	male:	32.5	63.7
female:	51.1	78.1	female:	35.0	72.3

(Sources: Bogue; US Dept. of Commerce (1983) after the age of 60 (Myers and Manton), and in the past two decades the highest rate of improvement has occurred among those over the age of 80.[7]

Non-white Americans continue to lag behind their white counterparts, and particularly among black males, the pace of improvement has slowed, even halted. Nevertheless, in terms of a general trend, lower rates of mortality have produced a more uniform, national demographic profile. As a result, survival to "early old age " is now expected among men and women of all social classes, and for women who live until age 65, survival into their eighties has become the norm.[8]

During the same period as life expectancies dramatically increased, birth rates dropped by half. In 1917 the total fertility rates (TFR) for white women was 3.2; by 1980 it was 1.8; for non-whites it fell from 3.6 to 2.3 (US Population; Reid).[9] However, in contrast to the steady decrease in death rates, birth rates have fluctuated, moving rapidly downward between 1900 and 1930, and then suddenly rising and holding high for the decade of the 1950s, before plummeting to new lows in the 1980s.[10] On the other hand, although birth rates have fluctuated, the likelihood of any woman having at least one child steadily rose, and the incidence of childlessness steadily decreased over the twentieth century.[11] Thus the overall consequence of shifts in

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[7] For example,among whites life expectancy after age 65 improved 12.6% for males and 19% for females between 1959/61 and 1982, whereas at age 80 it increased 20.2% and 41.4% respectively.(Manton)

[8] In 1980 white females averaged 18.5 additional years and black females, 16.5 (US Dept. of Commerce, 1983).

[9] In 1980, however, there is very significant variation within the non-white population. Thus for example measuring fertility by children born per 1,000 women ages 15-44, the rate for whites was 1,358 and among different non-white groups: Hispanics 1,817; blacks 1,806; Vietnamese 1,785; Chinese 1,020; Japanese 912 (Gardner et al:17), However because black and Hispanic Americans represent almost 95% of the non-white population, the variation among other minority groups is masked.

[10] Birth rate per 1000 residents:

1910	30.1
1930	21.3
1950	24.1
1957	25.3
1980	15.9 (Source: US Dept. of Commerce, 1983:63)

[11] Percentage of women age 30-34 who are childless:

1917	26%
1950	21%

fertility are strikingly parallel to the shifts in mortality. In both cases, the emergent trend is for the entire population to converge at a demographic norm where the majority can expect to survive to old age with at least one living child.

The second major outcome of these long term shifts in mortality and fertility rates has been a fundamental realignment in relative proportions of young, middle-aged, and old. Between 1900 and 1980, the median age shifted from 22.9 to 30.[12] The percentage of the population under the age of 18 dropped from 40.4% to 27.9% (Bogue; US Dept. of Commerce(1983):31-32). Nevertheless, despite this fundamental aging of the population created by rising life expectancies and falling birth rates, the total dependency ratio (defined as the ratio of non-working age to working age), has significantly declined. Thus, for example, in 1900, 46% of the population was under age 18 or over 65; in 1930, it was 39.4%; in 1960, 46%; and in 1980, 39%. (Bogue; US Dept. of Commerce(1983) Moreover, based on current rates of labor force participation, fertility, and mortality rates, demographers now predict that even in 2025, when most of the post-World War II baby boom has entered retirement, the ratio of workers to non-workers will be lower than it was in 1950.[13] To the extent that the demographic trends that fostered more complete and uniform kinship networks in the first half of the twentieth century remain in place, there is no demographic logic that would predict a decline in the quality of the family life of the elderly. But, as the other papers in the conference make clear, demographic trends only set the general parameters in which individuals construct and experience the quality of their family life.

In the past, the increased uniformity and completeness of kinship resources across all social classes of the American population, created one precondition for the predominance of high levels of intergenerational

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1960	14%
1970	12%
1981	21% (Source:Balwin and Nord:9)

The sudden increase of childlessness in the 1980s among women in their early thirties indicates a major shift from earlier years of the twentieth century. However since the increase coincides with improvements in contraception and obstetrics, and with increased labor force participation of women, it is very possible that the rate indicates delayed childbearing rather than childlessness and that the final TFR of women born in early 1950s will equal those of earlier decades.

[12] As with fertility rates, dependency rates vary by ethnicity. And among black Americans who represent 11.7% percent of the American population, old-age dependency is far lower than among whites. For example, in 1980 the median age in the black population was 24.9, as opposed to 31.3 among whites, and the ratio of those 0-14 plus those over 65 to those 15-64 was 91.7 for blacks, as opposed to 73.9 among whites. - (Reid:5)

[13] Crown's (1985) figures are 1.385 for 1950 and 1.195 for 2025.

solidarity. In the future new social mores about the desirability of marriage and the importance of children may give new meaning to high rates of survivorship, and patterns of intergenerational aid may become more diverse and unequal.

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PATTERNS OF AGING AND SOCIAL SUPPORTS IN THE UNITED STATES

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Throughout the world there is a growing recognition that the aging of populations will have tremendous social, cultural, and economic ramifications requiring profound and far reaching adaptations in all social structures and institutions (1). Demographic projections presented to the United Nations World Assembly on Aging, Vienna, July 1982, indicate that the fastest growing population group in the world continues to be the elderly (2). In 1980, there were an estimated 258 million aged persons 65 and over with the number expected to rise to 396 million by the year 2000 (3). Ironically enough, one of the greatest achievements of the modern world -- extending life expectancy well into the 70's -- too often is viewed as a source of consternation for social planners and policy makers who worry how this growing elderly population is to be supported, where it will live, and how it will grow old with dignity and respect. The responses to the challenges of an aging population will differ country to country according to cultural traditions and economic and social systems. However, all countries face similar problems of insuring the quality of life for an increasing number of no longer working adults, many of whom, as they age, require a variety of types of assistance in order to maintain themselves in the community. Because there is much to learn from each other, as we struggle in common with the implications of an aging population, this paper will attempt to present an overview of aging in one country, the United States. Particular emphasis will be placed on how the social needs of older people are met by family and community.

A major objective of supportive services for the elderly, whether provided within the family or community context, is the maintenance of the quality of life. Clearly, this concept is subject to many definitions and is in a major way influenced by cultural values. However, a reading of the gerontological literature in the United States and abroad suggests that the principal components related to the preservation of a quality of life for older people include adequate income and health care, suitable housing and environmental conditions, the existence of meaningful roles and relationships, and sufficiency of social supports. Most often discussions of quality of life in the United States emphasize the ability of the elderly to remain independently in the community. However, it is recognized that a small proportion of very frail older people (about 5% of the United States elderly population at any given time) may require some form of more protected housing and health care in institutional settings.

No one paper can comprehensively cover all the aforementioned contributors to quality of life. This paper, therefore, will attempt to do two things. First, in order to present the flavor of aging in America and provide a common basis for discussion, it will offer a brief profile of older Americans. Any demographic discussion, however, must emphasize the great diversity among older Americans as well as highlight the central tendencies evident in the aging population as a whole. Second, this paper will concentrate on one major factor in providing quality of life for older people--the nature of social care and the role of the family and community in the provision of social supports. Of all the aspects of aging in America, social care is perhaps the most misunderstood by professionals and the general public. As a result, the myth of the abandonment of the elderly in developed countries by family and society is all too common. As we shall see, in reality, older Americans are deeply embedded in viable kinship and friend/neighbor networks and give and receive in a reciprocal manner instrumental and emotional (affective) assistance according to need. Furthermore, older people in the United States are involved in a variety of familial, communal, and recreational pursuits which help to give new meaning to the concept of being old today. And demographic projections for the decades ahead suggest that the elderly coming into the aged cohort (those now 50-64) will have even greater financial, educational and social resources for a meaningful old age than the current generation of elderly.

Older Americans -- Today and Tomorrow

Our discussion of patterns of aging in the United States is organized along multiple-demographic aspects beginning with the absolute size of the current aged population, its size relative to the population of the United States as a whole, and the age, gender, and race-ethnic structure of the older population. Demography, however, only establishes the quantitative dimension of aging in America. At the individual level qualitative characteristics of the person and environment define quality of life for the elderly (1). Primary among these are family size and structure, indicators of economic well-being (including work and retirement history), health status, and living conditions including household composition.

In presenting this overview our approach is cross-sectional, using in the main currently available data from the United States Census of 1980. Occasionally, however, references will be made to changes over time or projections for the future. As noted previously, aging in America is a very varied phenomena. Out of necessity in any profile of a population, measures of central tendency are used to illustrate prevalence of occurrence and in making statistical generalizations. However, one must keep in mind that such measures do not adequately portray the heterogeneity of older people in the United States, and it is not infrequent for variations within an age cohort to be as great as those between cohorts. There are many definitions of age (i.e., biological, social, and psychological), and using chronological age is arbitrary. However, in the United States the most widely accepted definition of older people is the age group 65 and over. Within this broad range it is further common to distinguish between the young old, 65-74 years of age, the middle old, 75-84, and the old old, 85 years and over.

Number of Elderly and Proportion of Total Population

In the United States at the present time there are close to 28 million persons 65 and over comprising 12% of the total population (4). Based on United Nations criteria, the age structure of the United States can be considered old, though not necessarily the oldest among developed countries.

Sweden and the German Federal Republic have over 13% of their population 65 and over.) The majority of the current elderly, slightly over 60%, are the young old. Another 30% are 75 to 84 -- the middle old; 9% are 85 years of age or older -- the old old.

Although the rate of growth in the late 20th and early 21st centuries will be uneven (due to the size of the cohorts becoming old at various points of time), it is projected that the number of older people will increase from the current 28 million to about 35 million by the year 2000 (13% of the total population), to 57 million in 2020 (17% of total population), and to 66.6 million by 2040 (22% of the total population (1)(4).

A second important feature of the increase in the aged population is the rapid growth of those 85 and over. The old are anticipated to grow at an even more rapid rate than the elderly population as a whole. Today there are 2.7 million persons 85 and over. By the year 2020, the 85 plus population is expected to nearly triple (8.6 million) and to double again by 2040 (close to 16 million persons).

Although age and frailty are not strictly linear, it is the 85 and older who currently are the greatest users of hospitals and nursing homes. From a planning viewpoint, the early years of the 21st century (2000 to 2020) will see the largest number of young elderly entering the aged population -- the so called ±Baby Boom' generation reflecting increases in births immediately following World War II. A comparable increase in the over 85 population will occur between 2020 and 2050 when all the "baby boom" survivors will be 85 or older (6). Whereas the financing of income transfer programs such as social security and private pensions will be of utmost concern in the early years of the 21st century, by 2020 these concerns will give way to a need to focus on health and social services programs (including institutions) to absorb an unprecedented number of the very old and frail elderly (1).

Expanding Life Expectancies

Life expectancy at birth increased rapidly in the United States during the first half of the 20th century -- from about 47 years for men and 49 years for women in 1900 to about 71.5 and 78.8 years respectively in 1985. Social Security actuaries estimate that life expectancy at birth will increase to 76.9 for men and 84.6 for women by the mid-21st century (5).

During the first half of the 20th century the rapid increase in life expectancy was due to improved sanitation, improved public health, and the control of life threatening diseases, especially of childhood. In the second half of the century and in the future, most improvements in length of life are a result of longer life expectancy at age 65. This is because the big gains in public health and medicine now involve the better management and possible cure of diseases of adulthood. Today, an average American living to age 65 can expect to live 14.5 years more if a man and 18.9 years if a women. By 2050 life expectancy at age 65 is projected to reach 17.6 for men and 23.0 years for women (5).

For the individual these trends in life expectancy mean that the probability of reaching age 65 is very good for four out of five persons. Once reaching that age there is -- all things being equal -- a better than 50 percent chance of living beyond 80 (5).

Sex Ratio of Older Population

In as much as women tend to outlive men (the current gap in life expectancy at birth is about 7.3 years), the majority of older people are women (6). There are now three elderly women for every two men. Furthermore, women make up an increasing proportion of the old. (Thus women comprise 57% of persons currently 65 to 74, 63% of those 75-84, and 70% of those 85 plus).

The disparity in longevity between sexes has serious implications for family and community care -- given that women are more likely to be widowed, living alone, with limited financial resources, and facing greater risks of chronic illness and institutionalization. Thus, it is fair to say that the health, social, and economic problems of the elderly in the United States, especially those over 70, are predominantly problems of women (7).

Race and Ethnicity

The United States has been known for centuries as a "melting pot," with citizens having a wide diversity of national-origins and racial-ethnic backgrounds. This diversity is clearly reflected in the current elderly population, many of whom came to this country as young children. With respect to race and ethnicity, most older Americans are white; in 1984 only 9% of the elderly population 65 and older were non-white (included in this census category are Blacks, some Hispanics and others). However, over the last decade the elderly non-white population has grown faster than elderly whites as a result of higher non-white fertility rates and more rapid gains in life expectancy experienced by Blacks than whites (7). This trend is expected to continue into the next century, and by 2050 non-white persons are projected to make up 18% of the older population (8).

Within race and ethnic groups the proportion that are aged varies widely. The white population is the oldest, with 12% of whites over 65, as compared with 8% of Blacks, 6% of Asian and Pacific Islanders, and 5% each of American Indians and Hispanics. These differences when combined with differing cultural traditions affect planning for community services and the level of family care.

So far we have noted the extent of aging in the United States, the rapid growth in both absolute and relative size of the older population, the preponderance of women among the elderly, particularly in the older age cohorts, and the unprecedented growth of the old old, a high risk population requiring considerable supportive services. But, what is life like for older Americans; what is their health status; whom do they live with; and do they have sufficient income to provide for their daily needs? Answers to such questions will supply depth to our picture of elder persons in the United States.

Economic Status

Until recently in most countries the aged have not been the focus of attention nor the major recipients of social and economic resources. In the United States in recent decades this picture has changed somewhat, and with the advent of social security, Medicare, and other entitlement programs (e.g., housing subsidies, veteran's pensions, reduced fare on public transportation, and nutrition programs), the economic status of older people has shown a marked improvement. Two measures of this change commonly employed are the level of cash income (after adjusting for effects of inflation) and the proportion of elderly with incomes at or below the poverty level.[1] During the 1960s and early 1970s substantial gains occurred in the average income of the elderly due to a general increase in the standard of living in the country, specific improvements in social security (including higher benefit levels and legislated cost of living adjustments), and wider introduction of employer sponsored pension plans. (Median incomes, in adjusted 1984 dollars, for households headed by person 65+ rose from $11,396 in 1965 to $18,236 in 1984). As a result, new cohorts of elderly are arriving at old age with higher levels of social security income, a greater probability of having other retirement income, and more valuable assets (especially the financial equity in their homes) (5).

At the same time, between 1959 and 1974 there were very substantial declines in the proportion of older people living at the poverty level -- from 35.2 percent to 14.6 percent. Since 1974, the poverty rate among the elderly has been relatively stable, ranging between 14 and 15.7 percent for most of the period and declining to 12.4% in 1984 (8).

However, despite these improvements, persons 65 and over as a group have a lower and much less secure economic status than that of the younger population. First, and foremost, is the age related phenomena of retirement from the work force usually accompanied by a substantial drop in cash income. In the main, older people now depend on social security benefits supplemented by any pension income and interest from assets accumulated in their work years. The centrality of social security as a source of income, especially for the middle and lower income families, is indicated by the fact that in 1982 for households with incomes under $10,000, 70% or more of their income came from Social security. Furthermore, 65% of all aged households report that Social security provides one-half or more of all their income (5).

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[1] The poverty level is a measure of the adequacy of money income in relation to a minimal level of consumption and is adjusted each year to reflect changes in the cost of living. In 1984 the poverty level was $6,282 for an elderly couple and $4,979 for an elderly individual. Persons with incomes at or below the poverty level are considered to be "economically at high risk" and in need of income maintenance assistance. Persons with incomes falling between the poverty level and one and one-half of that level are considered to have marginal incomes and are referred to as "the near poor." Near poverty thresholds in 1984 were $6,224 for an elderly individual and $7,853 for an elderly couple.

With virtually no ability to improve their economic picture by working, older people are also adversely affected by other age associated changes, such as loss of spouse, or deterioration in health and self-sufficiency. In addition, the elderly have little control over macro-economic factors affecting their incomes such as inflation or changes in Social security or Medicare benefits.

It is not therefore, surprising that the elderly have lower cash incomes to cope with exigencies of life than younger adults. In 1983, the median of families headed by a person 65. was $16,862 -- roughly 60% of the $27,243 median income of families with heads aged 25-64. For an elderly individual not living in a family, the median income was $6,904, about half of that of a non-elderly single individual -- $12,482 (8).

However, relying on median incomes for comparisons tends to obscure some of the great diversity of economic circumstances among the elderly. In fact, the economic status of the elderly is far more varied than that of other age groups, and the distribution of money income among older people is more unequal than among the non-elderly. The greatest concentration of older families have income between $7,500 and $15,000, but approximately one-quarter report incomes in 1984 of $30,000 or more, and one percent have incomes in excess of $50,000. At the same time there are a substantial proportion whose incomes are very low. For instance, 21.2 %of older people (5.6 million)are classified as either poor or near poor (that is, with incomes at or just slightly above current poverty levels) (5, 8, 9).

It is interesting to note, however, that thanks to a minimum floor of income protection supplied by Social security and the Supplemental Security Income Program, older people are somewhat less likely to have incomes below poverty levels than younger families including children. (In 1983, 14.1 % of persons 65 and over had incomes below the poverty level compared to 12.1% of those 18 to 64 and 15.1 of all persons under age 65.) However, there are a greater proportion of the elderly living on marginal incomes just above the poverty level than is the case for the population as a whole. (In 1983, 16.1% of persons aged 65 and older were in families with incomes near poverty, as compared with only 9.6% of younger families) (8).

In addition, disaggregation of the income statistics shows that certain groups of the elderly suffer particularly from excessively low incomes. Most notable are women as a group and particularly widows. In 1983, older women's incomes were roughly half of older men's (median income of $5,599 as compared with $9,766), and in every older age cohort more women than man were likely to be poor. As might be expected the poorest of the elderly are the oldest women, who are usually widowed, and over age 85. Race and age also adversely affect incomes, with greater levels of poverty found among the older elderly of both sexes and among Black and Hispanic older persons.

The annual cash income of the elderly does not fully define the pool of resources available for dealing with catastrophic illness or other economic pressures. In order to purchase such things as long term care, older people can tap into their assets if they are liquid. However, for the majority of elderly their principle asset is the home they occupy, and their net equity is considerably lower than younger age groups. As with cash income, it is mainly the young elderly who hold any substantial liquid assets, and there is a decrease in the median value of liquid assets with age (for example, liquid assets for those 75 years of age and over are only 81% of assets of persons 65-74). The greater likelihood of the younger elderly having higher cash incomes and assets reflects both the higher life time earnings of every newer and younger age cohort and the gradual depletion of pre-retirement assets in the last decades of life (1). Although the picture may improve somewhat in the future, the current generation of elderly rarely have substantial liquid assets, and most live on moderate incomes somewhat below that of younger families.[2]

The improved economic picture of the elderly in the United States since the advent of Social security is one of the brightest spots in "aging America." As a result, most surveys of older people have found that the biggest worries of the elderly for the future involve health and the ability to obtain the necessary health care, rather than lack of money as such. However, it should be noted that at the present time in the absence of total health care coverage under Medicare, economic issues are really very intertwined with health concerns.

Health, Functional Ability, and Level of Service Need

In any discussion of the needs of older people for assistance, whether from kin or community agencies, health status is a central defining factor. It is commonly believed that most elderly in America are sick or disabled and live in nursing homes. Nothing could be further from the truth. Although most older people suffer from one or more chronic illness, the majority are not sufficiently limited inactivities to be considered disabled or dependent. Thus, Brody and Brody note that most older people do not need any more help than the normal garden variety of reciprocal services that family members of all ages need and give each other on a day to day basis and at times of emergency. (10)

Over the last century the diseases that afflict Americans have changed. Previously the major illnesses were acute and of short duration; one either died or recovered. Today, most illness is of a chronic nature that cannot necessarily be cured. For some older people such illnesses result in severe functional impairment, but for most, chronic illness can be managed with medication, exercise, diet, and reasonable caution so that major limitations are avoided. (The most common chronic illnesses of the elderly in the United States include arthritis, hypertension, hearing impairments, heart conditions, visual and mobility impairments, and diabetes). Although 80 to 85 percent of persons 65 and over have one (and sometimes more than one) chronic condition, a survey of the data on disability and the need for services in the United States supports the view that the majority of elderly are healthy enough to be able to lead independent lives with a minimum of assistance (11).

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[2] Recent analyses of the distribution of resources suggest that while the consideration of non-cash resources (e.g., government in-kind transfers and preferential tax treatment) reduces some of the economic differences between elderly and non-elderly, large numbers of elderly still have limited economic resources (7).

There are, however, three variations in chronic illness and disability rates worth noting and that, in turn, affect which groups of older people are more likely to be in need of supportive services. Most important is the age factor in impairment. As noted previously, the largest group of elderly, about 60%, are the young old aged 65-74. The majority of the young old are relatively fit and active. Sixty-four percent are without any functional limitation and need no assistance in performing the ordinary tasks of daily living such as going outside, walking around the house, bathing, dressing, shopping, and cooking.

The next largest group, 30% of the elderly population, is the moderately old aged 75-84. Persons in this group have increasing rates of illness and disability; yet even among the moderately old, half are without limitations in the ability to carry out the major activities of daily living. Thus, most are still independent, although they may increasingly need assistance with more arduous household tasks such as carrying heavy shopping bags or heavy cleaning.

It is the oldest elderly (85 and over) who are the most vulnerable and in need of assistance. Although they comprise only 9% of the elderly, the majority of this fast growing group of very old are limited in either the kind or amount of activity they can undertake or are totally unable to carry out the major activities of daily living (12). This group requires the most extensive support, which often includes personal care such as washing, bathing, and supervision of medical regimes.

There are also sex and socioeconomic differences among the elderly. Women have a higher rate of illness, both acute and chronic, and are more likely to suffer limitations in their ability to perform normal routines. But the diseases associated with women tend to be less life threatening than those prevalent among men, suggesting one reason why women live longer than men. Furthermore, the burden of illness and chronic disability falls most heavily on the poorest elderly and members of minority groups (Black, Hispanic, American Indians, etc.) (12).

Most older people in the United States who need care live in the community, not in institutions. A national health survey by Shanas (13, 14) found that among community-based elderly, about 8 to 10% were bedfast or homebound and as functionally impaired as those in institutions (5% of the older population). Thus, there were twice as many bedfast or homebound elderly at home as in institutions. In addition, another 7% of the community residents surveyed were only able to go outside with assistance.

While the amount of help needed by the elderly living in the community varies greatly, estimates of the overall proportion requiring some kind of supportive services range from 12% to 40% (depending on the services included). The majority of experts suggest that one-third of the elderly, or about eight million people, need some help (15).

Given the growing number of older persons and particularly the rapid expansion in the number and proportion of the old (who need the greatest amount of care), the role of family and community in supplying the needed social care will become even more acute in the future.

Work and Retirement

With increased longevity and changing social and work patterns, there have been major changes in the proportion of time Americans spend in life activities such as education, work, retirement, and leisure. Compared to a century ago children spend more time in school; both men and women in the middle years spend more time working and older people are spending more time in retirement. Retirement is now an established part of the life course (8). Since social security was enacted in 1935, age 65 has been commonly thought of as the "normal" retirement age; in reality most retirees leave work before age 65. A national survey in 1978 of attitudes in the United States toward pensions and retirement found that almost two-thirds of retirees had left the job they held during most of their working years before 65, with the median age of retirement being 60.6. The vast majority of those retired were not working at any other job, although 8 % were found to be employed part-time, and 5 % were working full-time on a job different than that held at retirement (11).

Cross sectional data show that the proportion of persons 65 and over still working decreases sharply with age. By 70 years of age only about 11% of the men and 4% of the women are still in the work force.

Older people continuing to work beyond retirement age tend to be the more highly educated with professional, business, or managerial work careers. Although the mandatory retirement age was extended in 1978 to 70 in most industries, research on the impact of this change suggests a minimal effect on retirement age.[3] People apparently retire for a variety of reasons--including health, availability of private pension benefits in addition to social security, and (perhaps most important) social expectations and long held plans for the utilization of retirement years in the pursuit of a variety of leisure time activities.

Living Arrangements and Family Composition

Perhaps the most striking difference between the elderly in developed and developing countries is the nature of their living arrangement. Although co-residence between elderly and an adult child is still relatively common in a few industrialized countries (notably Japan), in most developed countries the majority of older people maintain their own residence (17). Thus, most people, and the vast majority of older people, in the United States live in their own households. Extended family households containing several generations are the exception. They are found mainly among certain ethnic groups (e.g., Hispanics, American Indians, Asian Americans, and some Blacks); among families living in poverty who combine resources for survival; among families who have recently immigrated; and among older, frailer elderly, mainly women, who have moved in with children because of poor health or limited functional ability.

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[3] Legislation passed in 1986 prohibits mandatory retirement at any age for almost all workers.

Research indicates that in the United States, older people and their families prefer to live near each other but in separate quarters -- a situation that has been called "intimacy at a distance." Thus joint residency is not the most important factor governing the relationship between old people and their children (14). Nor are living arrangements as such the major factor in whether or not kin provide assistance in the end need. Probably one of the most important contributions made by Social security and other government programs assisting the elderly (e.g., housing supplements, reduced property taxes, etc.) has been the attainment of economic independence, allowing the majority of older people the option of remaining independently in their own households (18).

However, the availability of assistance during times of illness or growing frailty is affected by whether or not one lives alone in a family setting with someone else. At the present time half of all older people in the United States are married and live with their spouse. Interestingly, the proportion married has remained relatively stable over recent decades. For older persons with a spouse, the spouse is usually the primary provider of social support. Children in such families usually play an important secondary social and respite role.

Approximately 15% of the elderly live with children or other relatives (virtually all of these are widows or widowers); 2% share living quarters with non-relatives. Moving in with children is clearly related to greater frailty in the older person as evidenced by poorer health and more limited functional ability.

Perhaps most important is the fact that 30% of the elderly currently live alone. The proportion living alone increases to 39% among those 75 and over. Women are more likely to be found living alone. This is a reflection of several factors: the tendency for man to marry younger women, their greater longevity, and the fact that widowed men are seven times more likely to remarry than women. Thus, while most men spend their elderly years married and in a family setting (i.e., with wives in their own households), most women spend a portion of their later years as widows, frequently living alone.

Proportion of Elderly Having One or More Living Child

Probably the most critical element in the support system of older people is children. All major studies of kinship structure and interaction, suggest that the adult child - aging parent relationship is unique in the family constellation both with respect to emotional bonds, interactions, and service exchanges. In both industrialized and developing countries, most older people have at least one living child. In the United States, for example, 80% of all older people have one or more living children, a proportion unchanged over the last twenty years. Most important, even when children have moved away, there is usually one child in the family who remains in relatively close proximity. Contact with children is frequent, involving assistance with daily tasks as well as emotional support and socialization. Although most children in the United States exhibit a strong sense of responsibility for parents, there is no legal obligation for financial support. Furthermore, financial filial responsibility under law is not seen as necessary for strong supportive intergenerational relationships.

However, a sizeable proportion of older people -- one out of five nationally -- are without children. For this group, other relatives, friends, neighbors, and community organizations play a most significant role.

Role of Family Versus Society in Providing Needed Assistance

Despite the fact that most older people in the United States live independently in their own households and that there is no provision under law for filial responsibility, older people have by no means been abandoned without meaningful kin relationships. Thus, the social support system of the elderly increasingly involves an amalgam of informal services provided by the family and significant others and formal services offered by community-based organizations, supported in the main by public funds. Today, the United States government acting directly or through delegated state and local agencies provides the floor of basic entitlements and services for older people in such crucial areas as income maintenance, health care, housing, transportation, and safety. But, the family continues to retain the principal role in the provision of the more personal social supports of its older members. Thus, older people without a circle of family or significant others can be severely disadvantaged.

Social Support System -- Definitions

Before describing the nature of social supports in the United States, some definitions are helpful. A social support system can be viewed as a pattern of continuous and intermittent ties and interchanges of mutual assistance that play a significant role in maintaining the psychological, social, and physical integrity of the individual over time. For such a system to function, consistency and availability of relationships and resources are required to meet a variety of needs. In the case of the elderly, three decades of gerontological research and practice have shown that the conditions of the elderly requiring assistance are usually chronic, calling for sustained assistance. Furthermore, although medical or health related services are sometimes involved, in the main the supports required are of a social nature (10). Thus, social supports are particularly germane to helping older persons fulfill three critical kinds of needs: the need for socialization and personal development; for help carrying out the tasks of daily living (such as shopping, cleaning, and laundry), and for personal assistance during times of illness or other crisis (e.g., bathing, giving medicine, obtaining financial entitlements, etc.) (19). Social supports can be of an instrumental nature involving direct tangible assistance or material and/or of an affective nature involving emotional support and socialization (20).

The Provision of Social Care -- A System Model

Given older people's needs for social supports, how does the system operate to provide the necessary assistance? In the model which follows, the United States is used as an example, but the approach is equally applicable to other developed countries. Furthermore, it is likely that a similar model of social care will emerge in developing countries as formal services for the aged are instituted alongside family care (15, 21, 22, 23).

The social support system of an older person in the United States is best characterized as having both formal and informal components existing side by side. If one can envision an older person at the core of and interacting with a series of sub-systems or types of service providers (each represented by a different circle in Figure 1), which usually operate independently but at times interact, the concept of a broad-based social support system becomes clearer.

At the outermost reaches of such a system are the political and economic entities which determine the basic entitlements available to older people. Such entitlements impact significantly on well-being in all areas but are particularly germane to income supports, health, housing, safety, and transportation.

Somewhat closer to older people in terms of social distance, though still far from playing a central role in the support system, are the public and voluntary service organizations which carry out the economic and social policies and programs mandated by public laws, such as the Social security Act and the Older Americans Act in the United States. The organizations or agencies in the two outer rings are clearly part of the formal support system. In line with the characteristics of bureaucratic organizations, they are expected to function instrumentally and objectively according to an ideology of efficiency and rationality. Thus, formal organizations are best able to provide services requiring the application of technical knowledge uniformly and impartially to large aggregates of people (24).

Still closer and standing somewhere between formal organizations and informal networks are the non-service formal organizations or quasi-formal service organizations (or their representatives). Often referred to as mediating structures, these include religious organizations, racial/cultural, social, block and neighborhood groups, and individuals such as postmen, shopkeepers, bartenders, and building superintendents. Such groups or individuals often serve as a link between the individual and society, as well as offering assistance of an informal nature (25). In the model this network has been labeled tertiary inasmuch as it resembles the informal network but springs from and is related to formal organizations.

Finally, closest to and most involved in the daily life of an older person are the individuals who comprise the innermost circle -- the informal support system of kin, friends, and neighbors. It is precisely these "significant others" with whom older people have the most frequent interaction, both instrumentally and affectively, and who provide the broad base of social care in the United States and other countries throughout the world (17, 26).

Family and other informal caregivers are distinguished from formal service providers in several significant ways. Most important they are chosen by older people on the basis of intimacy and personal involvement. Assistance is based on a system of mutual reciprocity. In the case of kin, such reciprocity stretches over the life cycle, while with respect to neighbors and friends it may be based on shared experiences and have more recent origins. In general the assistance given by family and neighborhood friends is less technical in nature than that provided by formal organizations (e.g., housekeeping and bathing as compared with specialized medical procedures provided by visiting nurses) and tailored to more unpredictable and idiosyncratic needs of the individual. Informal supports can usually respond more quickly to the need for assistance and be more flexible with respect to time commitment and tasks to be performed. And finally the role of informal supports in providing emotional support is often crucial and of as great importance as the particular tasks they do for the older person.

Although in the model (Figure 1) each support element is shown as separate and distinct, the amount of interaction between the subsystems is considerable, illustrating the dynamic nature of the system. The most common form of helping interactions are the direct reciprocal exchanges between older people and members of the informal system. Not uncommon, however, are examples of indirect reciprocal interactions in which parents help children who in turn may have neighbors or friends who assist the older parent in the absence of the child. Only among the frailest, more impaired elderly does the pattern of assistance tend to be asymmetrical, flowing in only one direction, usually from younger to older. Yet even in the most difficult caretaking situations involving impaired elderly, there is a suggestion of important psychological benefits to those providing assistance, again underscoring the interactive nature of social supports.

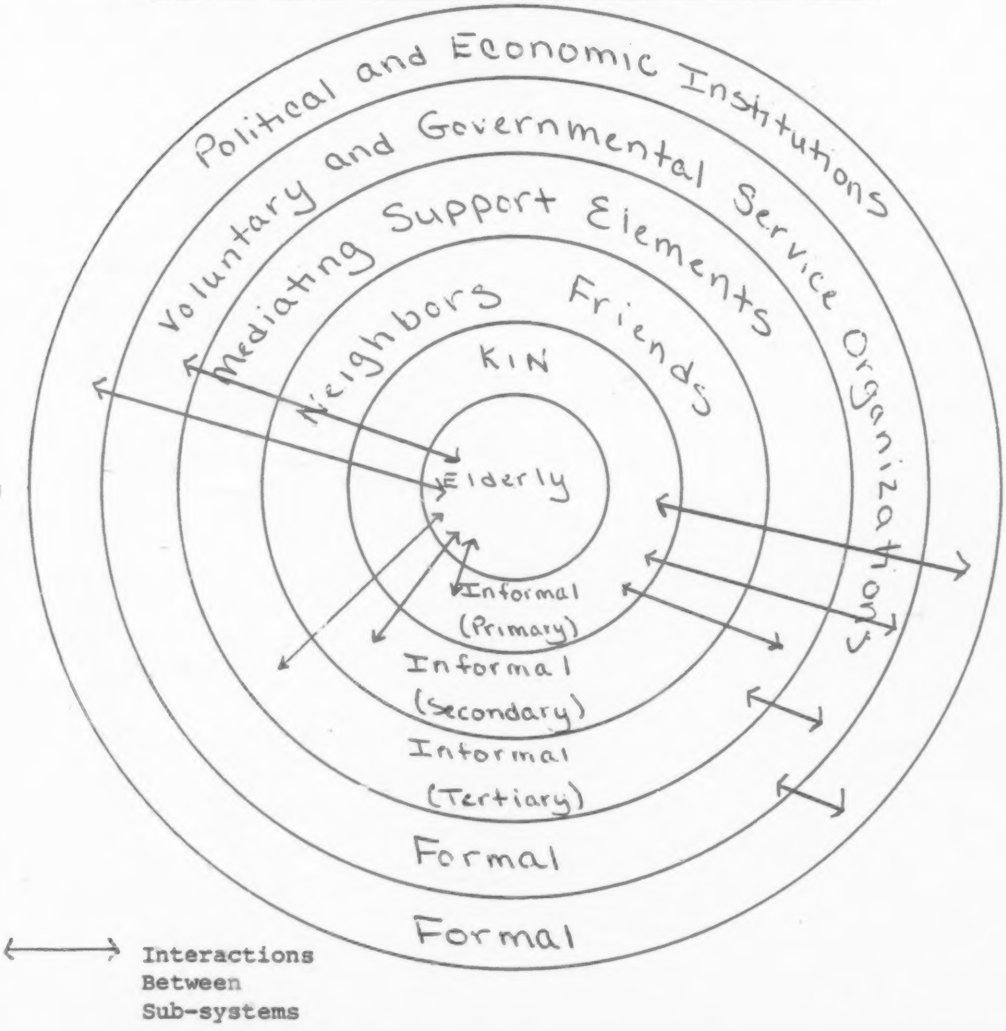
Still another way of viewing the model involves the services provided. The holistic nature of the support system is further illustrated by the fact that similar services may be offered by more than one sector while other services are more likely to be the province of one subsystem. Only formal organizations by definition provide institutional care. Yet recent studies in Cleveland (26) and New York (27) report that many of the same type of services are being provided by nursing homes and by families in the community. This tendency for overlap is illustrated in Figure 2 where services provided by the informal and formal sectors are related to varying levels of functional impairment.

Level and Type of Social Support Provided by the Informal and Formal Components of the Social Care System

Having presented a model of the system of social care as it exists in the United States today, it is appropriate to briefly describe the level and types of support provided by the informal and formal components of that

Figure 1

SCHEMATIC MODEL OF THE SOCIAL SUPPORT OF THE ELDERLY


Political and Economic Institutions
Voluntary and Governmental Service Organizations
Mediating Support Elements
Neighbors Friends
KIN
Elderly
Informal
(Primary)
Informal
(Secondary)
Informal
(Tertiary)
Formal
Formal
Interactions
Between
Sub-systems

Note: In this model it is possible to start from the center and proceed outward or from the outer ring, the macro-system, proceeding inward to the mocro-level. The chosen direction depends on whether one is concerned with describing the support system of individuals or whether one's interest lies more with issues of social distance and the impact of macro-level social policies on individuals and families.

Source: Cantor, Majorie. 1977. Neighbors and Friends: An Overlooked Resource in the Informal Support System. Paper presented at the 30th Annual Meeting Gerontological Society, San Francisco, California.

system. Inasmuch as the need for social support varies among different groups of elderly according to age and degree of frailty, it is helpful to distinguish between assistance provided to the relatively well young elderly and that required by the moderately old and very frail older cohorts. Furthermore, to understand the central position held by the family in the provisions of social supports in the United States, as well as in other parts of the world, it is necessary to consider prevalent values, among the elderly and their families, regarding dependency as an acceptable behavioral norm.

John Donne, English poet of the 14th century, perceptively noted that "no man is an island unto himself" and that "when the bell tolls it tolls for thee." Acceptance of this concept of mutual interdependence varies from society to society depending on its particular history, culture, and stage of economic development. The United States, since pioneering days has stressed the ability of an individual to survive and prosper with a minimum of assistance from those around. Although the frontier is long gone, the ethos of independence and self-sufficiency still permeates our culture and is a standard against which individuals measure their own and others worth. As a result in old age, as the balance shifts from independence to dependency, the potential for normative conflict increases. Thus, an older person in the United States today is often caught in a dilemma, on the one hand, between adherence to cultural norms of self-sufficiency and independence so characteristic of adulthood and, on the other hand, the concrete needs for assistance as health, physical strength, mobility, and economic resources decline with age. How older Americans attempt to resolve this conflict is best understood within the context of modern kinship structure and the relationship between informal support networks and formal organizations. Research has suggested that older people perceive the informal network of family, friends, and neighbors as the most appropriate source of social support in virtually all situations of need. Family or other informal networks are seen by the elderly as natural extensions of themselves and reciprocal helping patterns often rooted in the past are activated in time of crisis. Such a preference is consistent with minimum psychological damage to ego systems based upon norms of self-sufficiency and self-reliance (15, 28).

It is, therefore, to the informal system that older people turn first and most frequently. Only when kin is unavailable or family and significant others can no longer absorb the burden of providing assistance do older people and their families turn to formal social welfare agencies for help. Thus, the social support system in the United States can be categorized as operating in a hierarchal-compensatory manner. Kin, particularly spouse and children, are preferred as the cornerstone of the support system -- followed (in preference) by friends, neighbors, and eventually government and other formal organizations (in a well-ordered selection hierarchal process) (23).

Assistance to the Younger, Relatively Well-Elderly

How does the family carry out its role of provider of social support? Among younger, more functionally able elderly, assistance patterns between generations are characterized by a high degree of reciprocity following patterns established over the life cycle. Research in New York City and elsewhere suggests that support is generally two directional and that older people are not passive members of the family or other informal networks. Parents help children with baby-sitting, provide gifts (both non-monetary and monetary), socialize with them, and assist during times of illness. Direct assistance with chores of daily living (e.g., shopping, meal preparation, and housekeeping), and the giving of advice are somewhat less frequently reported but are still important aspects of intergenerational relationships. In turn, children respond to parents as the need arises. Again crisis intervention and gift giving far outweigh direct assistance, and there is considerable evidence of emotional support through frequent visiting, telephoning, and expressions of closeness between generations. Children also play an important role as intermediary and advocate, supplying information and providing linkage with the formal organizations and governmental bureaucracies responsible for entitlements and formal services (29, 14, 30, 31).

Although research in New York City and Los Angeles shows the role as a support giver is even more extensive among the Hispanic and Asian-American population (where the extended family is more in evidence), white and Black elderly also have substantial informal networks involving one or more child living nearby. Furthermore, "intergenerational exchanges occur among all socio-economic strata and the extent of informal supports do not differ significantly. The form of the interaction, however, is clearly influenced by class, culture, and ethnicity. Working and lower middle-class families in the United States are more apt to be involved in the direct provision of in-home assistance to older parents, while more affluent families rely more heavily on emotional support and gifts or monetary assistance (15).

However, focus on the family should not obscure the fact that there are a significant number of older people (probably a third) without children or with no child nearby. For such elderly, neighbors and friends are particularly important. Despite differences in age, mutual helping patterns exist, and they tend also to be reciprocal in nature.

Older people and their friends and neighbors visit together, escort each other to doctors, help out during emergencies, and assist with shopping. Above all friends/neighbors offer assistance during illness or emergency and also provide socialization and affective supports (including tension reduction) over and above that supplied by the kinship system (30, 22 15).

Assistance to the Moderately and Severely Impaired Elderly

Perhaps most striking is the role of family and significant others in providing services in the home when older people are sick or grow frail with increasing age. As the need for greater assistance occurs, kin respond with more help and help of a qualitatively different kind. For the family member of a frail older person, caregiving now goes beyond socialization contacts and involves a substantial time commitment in order to provide the needed services. Spouses devote the most time and perform the widest array of tasks, followed next by children. Other relatives, neighbors, and friends are less frequently designated as primary caregivers and less involved in terms of time and tasks.

In the face of frailty, families are now involved in a wider array of tasks. For the moderately frail elderly, they provide, at a minimum, assistance with shopping, errands, escort to medical services, and some help with the management of finances. With somewhat greater incapacity comes the next level of tasks. These include complete care of the home, including heavy housekeeping and laundry, and preparation of meals. Finally, there is the most difficult and emotionally draining level of assistance involving personal care (washing, bathing, and toileting) and performing some medical procedures. Because personal and health care services involve very sick elderly with considerable physical and or mental impairment, such tasks are less frequently reported by informal caregivers. However, several studies suggest that anywhere from 25 to 40% of the primary caregivers were involved in these arduous responsibilities (32, 33). When heavy housekeeping, personal care, and medical assistance are required, there is a greater likelihood that formal support services will be called upon to supplement, but not displace, the informal services (34).

All studies of caregivers of the frail elderly suggest that it is mainly women (wives, daughters, and daughters-in-law) who bear the brunt of informal caregiving. Increasingly in the United States women of all ages are working. For working women the care of older parents adds still another level of responsibility in addition to care of their own families and job related duties.

Given the extensiveness of family care in the United States, the abandonment of the elderly by the family is clearly a myth. Perhaps most telling are the studies that have sought to estimate the extent of current family responsibility in the care of the functionally disabled. Callahan and his associates (35) found that the family role was significant for between 60 and 85% of the disabled of all ages in the United States. And a major study by the U.S. General Accounting Office of the United States Congress revealed that family members, not professionals, provided the bulk of the care to the impaired elderly: 80% of the medically related care and personal care and 90% of the housekeeping services -- to say nothing of the extensive emotional support and response during crisis. In the vast majority of cases the informal caregivers are not assisted by community agencies. Furthermore, families in the United States today provide long term care without compensation or compulsion even though the emotional, physical, and financial strain involved may be considerable (36).

The Formal Support System

Previous sections have attested to the significance of the family and other informal system members in the lives of older Americans. This in no way minimizes the role of formal services. It is important to reiterate that in the United States there are sizeable numbers of older people without living children (at least 20% of the elderly population) and some elderly without other kin or friends/neighbors to act as compensatory informal supports. In the central system of New York City, for example, 8% of the 400,000 elderly were without any informal supports, while in another American study, 10% of the respondents named "a responsible other" who provided neither affective nor instrumental assistance (30, 37). For such elderly the formal system is the principle source of social care.

Furthermore, the stress and strain of caring for frail elderly is considerable (36). Formal services play a crucial backup and respite role, enabling families to continue to care for older members. And there are some types of services which from a societal and individual perspective can best be performed by the formal sector.

Returning to the age continuum employed in previous sections, we find that formal services in the United States are utilized by all three groups of elderly -- (a) the well, generally younger elderly, (b) the moderately impaired, older elderly, and (c) the very frail, often old old. As with informal supports, there is a relationship between the nature of the services and the level of dependency of the older person. The extent of formal services, however, is a product of macro-level factors -- including the current status of the economy, the proportion of elderly in the population, and the dominant value system regarding the appropriate roles of the individual and society in providing care for dependent persons.

In the 1960s and 1970s there was an expansive attitude in the United States regarding formal services, and many new types of services for older people were sponsored by various branches of the federal and local governments. In general these services were directed towards all the elderly regardless of income. To rationalize the provision of services to older people, "offices for the aging" were established in states and localities. The major functions of such offices are planning, coordination, and advocacy -- rather than direct service provision.

The current federal executive branch's attitudes toward publicly supported formal support services in general have tended to be more restrictive. There has been no substantial expansion of social services for the elderly. Instead there is greater emphasis on targeting services only to the elderly poor or those with incomes just above the poverty levels. Thus, the United States, at present, appears to be moving in a somewhat different direction from other industrialized Western European countries who continue to offer personal social and health services to all citizens and not just to "the poor alone."

The Nature of Formal Services

The formal support system, in all countries where it exists, provides services which supplement, complement, and in some cases substitute for formal care. At present in the United States, formal services for the well-elderly are mainly important in the area of socialization and personal development. Thus, the well elderly are involved in senior centers and congregate meal programs, adult employment and education programs, volunteer services, and other formal sector programs with activity and socialization as the core components. The moderately frail elderly take part in some of the same programs but in addition receive limited help from formal organizations with housekeeping chores, shopping, transportation, and other aspects of daily living. In the case of the very frail, old old, the importance of formal social services markedly increases. For impaired elderly to remain in the community, a wide range of in-home services and personal care are required. Where the family is an active caregiver, formal services may act as a backup or respite. In the absence of a functional informal network, the formal sector acts as a substitute for the family and is expected to assume surrogate responsibility either through the provision of in-home services or institutional care. In addition, all three groups of elderly sometimes require information and referral services and assistance, sometimes legal, in securing or retaining income and health entitlements.

In the last decade, formal services have begun to be directed not only to the elderly themselves but to the families involved in their care. Experience indicates that self-help groups of informal caregivers, usually initially organized and led by professional staff, can ease the strain for families involved in the care of very sick older people with benefits accruing to both those giving and receiving care. (For a fuller description of formal services being offered, see Figure 2.)

Federal Government Spending for Formal Services for the Elderly

The funds spent by the U.S. Government in support of older people (in 1985, $263.5 billion) can be divided into four categories. The first and largest is money spent for retirement and health benefits through Social security, Medicare, and Medicaid. About 80% of all monies directed towards the elderly go for these programs. However, Social security and most of Medicare are financed by taxes collected from employers and employees specifically for retirement and health benefits.

Second, the Federal Government provides pensions and insurance for veterans and retired government employees. About 8 cents of every dollar spent on the elderly goes for these programs.

A third area of Federal involvement is to provide means tested benefits to older people with very low incomes (i.e., at or slightly above the poverty level). These include Supplemental Security Income (SSI), housing, food stamps, energy assistance, and formal social services for the poor. About 7 percent of the Federal dollar outlays for older people are directed to those programs limited only to the low income elderly.

The final and smallest area of expenditure is on programs of general benefit to all elderly. These include nutrition programs, a minimum level of formal social support services, and research funds for the National Institute of Aging. Only 2% of the Federal monies spent on aging go to this category (8).

At the present time the most crucial deficit in formal social supports is found in the area of "services in the home" (i.e., homemakers, home health aids, etc.). Given the relatively little money spent by the Federal Government on social services (except for those directed only to the very poor), there is a paucity of publicly supported in-home services, and private-for-pay home care is too costly for most older Americans. Thus, the need for home care within the means of the average middle-income elderly (not

Figure 2

Major Tasks Performed by Informal, Mediating and Formal Systems
According to Level of Functional Impairment of Elderly

	Level of Competency	Informal System	Mediating and Formal Systems
Frail Impaired 10%	Low	Co-residence Total Money Management Assistance in home - extensive, light heavy housekeeping, meals, shopping, etc. Personal care - washing, bathing, supervision of medical regime, etc.	Institutional Care Protective Service Case management, counseling - older person and/or families, self-help groups Respite Service - Day Hospital, Day Care, Special Set-aside Beds Homemaker Service Home Health Aids, Visiting Nurses Meals on Wheels
Moderately Impaired 30%		System negotiation Help with financial management Accompanying to medical appointments Assistance in home - more frequent, wider array of tasks, i.e., shopping, occasional meal preparation, light housekeeping	Linkage to Services, counseling older person Escort, Transportation Friendly Visiting Congregate Housing Chore Service - limited in time and amount
Well-elderly 60% of Population	High	Assistance when ill - short term Assistance in home - short term Escort, transportation Advice Gifts, money Visiting, providing affective support	Reduced Fare Programs on Public Transportation Information and Referral Assistance with Entitlements Cultural and Spiritual Enrichment Programs Socialization, recreation opportunities i.e., Senior Center, nutrition, parks

Provider of Service

Note: The services shown are cumulative and it is assumed that any service shown in the levels below will continue to be available if appropriate. Thus, only additional services required as competency declines are noted.

eligible for current public programs) is one of the most acute problems faced by the long-term care system. With greater numbers of frail elderly projected for the future, this problem can only grow, suggesting the need for expansion of Medicare to cover home care and/or the development of other types of insurance to cover the costs of formal in-home and nursing home care.

Conclusion

Against a background of rapid growth in the elderly population, particularly the oldest segment, certain trends regarding aging in the United States emerge. Contrary to common myths and stereo-types, most older Americans are neither disabled nor frail; they have not been abandoned by their families, and they are not found in poverty, isolated from those around them. Indeed, the facts presented in this paper suggest an opposite conclusion. Although the aging population is characterized by considerable diversity, most older people in the United States today have strong and helping relationships with kin, friends, and neighbors and enjoy improved health and economic status. There are still older people, particularly women and minority elderly, living at poverty or near poverty levels, but the majority are not. Older American families are not by and large wealthy, and their incomes are, on average, lower than younger families. But with income from social security, sometimes supplemented by private pensions and assets, most can meet their everyday living expenses. The big question for the future is what will happen with regard to long-term care costs. At present the average older person does not have sufficient income to cover protracted illness requiring extended private help in the home or the need for nursing home care. With the increase in longevity and larger numbers of elderly in the oldest age cohorts, where frailty is most prevalent, concerns about paying for health care have become paramount for both individuals and society as a whole. The present health care system in the United States does not provide an answer except in the case of the very poor.

With respect to family life, older people are an integral part of family networks, although out of preference co-residency with children is rare. Most people continue to live in their own homes as they age, but research has shown that there is usually one or more child living close by, the so-called "intimacy at a distance." Despite the absence of legal financial responsibility, children are deeply involved in the lives of the elderly, providing both instrumental and affective support. Among the relatively well-off young elderly, the flow of assistance between generations tends to be reciprocal. Older people provide as much assistance to children, friends, and neighbors as they receive in return. As people grow older and frailer, families respond with even more assistance and assistance of a more intensive nature. Thus the family, not professionals, provides the major source of care for the frail elderly in the United States today.

Most frail older people continue to remain in the community, usually in their own homes, until such time as the nature of their illness makes the burden of care too great for families or a higher level of technical skill is required. There are, in addition, some elderly without viable informal support systems. In such situations, institutional care and protective housing arrangements are involved, but at any given time only about 5% of the elderly population of the United States are in institutions.

Not surprisingly, women are the main source of informal care. But more women are working, and the supply of family caregivers in the future may be more limited. As yet, there is no indication that working women are neglecting their filial responsibilities. Rather, they are extending themselves even further to assume multiple roles of caring for the elderly, their own families, and their jobs. But taking care of a frail, dependent person often involves considerable emotional, physical, and, to a lesser extent, financial strain. More thought needs to be given by all countries to providing a wider array of community based, family-oriented respite services (self-help groups, home care, daycare, etc.), if we are to expect families to continue to carry out so much of the long-term care of the elderly.

Older people in the United stated today are retiring earlier, often even before the age of 65 (the current social security "normal" retirement age). The only exception to the growing pattern of early retirement is found among professional and managerial groups who continue to work longer out of preference. Retired older Americans are involved in a variety of activities. Some serve as volunteers in community organizations, particularly serving children; others return for further education, join senior organizations, or devote themselves to leisure time activities. With longer life expectancy, meaningful roles for the elderly will become even more important. No society can afford to lose the valuable contributions of its senior members and better use needs to be made of their services in the years ahead.

And, finally, although most older Americans suffer one or more chronic illnesses, the majority are not in poor health and are able to perform the tasks of daily living. Medical advances and health prevention measures are helping older people manage chronic illness and lead fuller lives. As a result, the desire for independence and continued control over their own homes and lives, with minimum reliance on others, is a commonly voiced desire among the elderly of the United States.

However, the emphasis on independence expressed by older people and their reliance on family and other informal supports for assistance at times of need, does not negate the role of community-based formal services. It is clear the family continues to have a unique and valuable role, and there is little indication that the moral responsibility to care for the old will be eroded in the coming period. But, a floor of formal community-based social services must be available, without regard to income, both to assist families in caring for the elderly and in assuring older people without families the assistance they need. Furthermore, recent research suggests that the new elderly coming into the aged cohort may be more receptive to turning to the formal sector for assistance, particularly in the area of long-term care. Thus, the social care system of the elderly must truly become an integrated system, with proper interface between the formal and informal components. In that way, each will perform those functions for which it is best suited, and the social care needs of the ever growing number of elderly, particularly the frail, will be most effectively met.

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THE URBAN ELDERLY IN DEVELOPING EAST AND SOUTHEAST ASIAN COUNTRIES

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Introduction

This paper discusses the plight of the urban elderly in developing countries of East and Southeast Asia. As a group, these elderly may have been hardest hit by the forces of urbanization and industrialization which have only begun in their countries within their life-time. For most of them, the world was as it had been for thousands of years when they were born; however, as they grew up, not only had traditional norms and customs waned and passed away, but they themselves also had to move away from their familiar agrarian environment to the unknown cities. Now, as they are entering into their old age, they find life entirely different from what they had seen of their ancestors, and it represents to them a most trying and difficult period.

The problems which the urban elderly in developing East and Southeast Asian countries are encountering should not of course be exaggerated. But it should be remembered that the majority of people in most of these countries, like Thailand, Malaysia, the Philippines, Indonesia and China, are still living in the villages; modern cities have only grown up there in the last three to four decades after World War II (Dwyer 1972). Their urban elderly can thus claim to be the first generation to have experienced the aging process in an industrial city. It should therefore be pertinent to understand their difficulties in order to find out the actions and policies which their countries could take to enable them to live a better life.

It has been mentioned that this paper is confined to developing countries in East and Southeast Asia. As industrialization has only begun in this region since the end of World War II, nearly all countries there, except Japan, are in a developing stage (Myint 1972). Although metropolises like Singapore and Hong Kong have gone some way in their industrialization process, they are not yet classified as developed. Discussions in this paper will therefore be applicable to all cities in this region, excluding of course those in Japan. However, owing to the lack of source materials, examples can only be quoted from studies carried out in Singapore, Hong Kong, Taiwan, the Republic of Korea and Shanghai, where the problems of the aged are also more acute.

While the urban elderly in these countries are the first group to have grown old in a modern city, it should not be forgotten that the cities in which they live vary greatly from one another, not only in terms of their levels of economic development, but also in their traditions and cultures inherited from the past (U.N. Economic Commission for Asia and the Far East 1971). It would therefore be dangerous to make generalizations regarding the conditions of the elderly within them or the problems they face at present.

The best that this paper can do is to relate the experiences of different countries, and if similar phenomena are found, there are good grounds to believe that the care of the urban elderly is becoming a pressing issue for developing countries in East and Southeast Asia.

The Plight of the Urban Elderly

While focussing on the difficulties that the urban elderly in developing East and Southeast Asian countries may face, it should be pointed out that they have also benefitted from the progress achieved. Wars and disturbances have happened in some of the countries under study, but stability has prevailed in most of them and resulted in a high rate of economic development. Countries and regions like Singapore, Hong Kong, Taiwan and Korea have grown so rapidly in their industrialization that they have now become targets of jealousy (Chen 1979). As a whole, living standards in most cities in East and Southeast Asia have been raised, absolute poverty reduced and most people are now enjoying a longer life span and greater material affluence than ever before (Wong 1978). The problems to be described as besetting the urban elderly are thus emphasized for the purpose of identifying the actions which these countries and regions must take to improve their lives; it does not mean that the urban elderly are necessarily worse off than their ancestors or their counterparts in the villages.

Nevertheless, the urban elderly under examination are no doubt living in an unprecedented age and facing changes unheard of in their societies in the past. One of the obvious changes is that more and more of them are no longer living with their grown-up children. In Hong Kong, it was found that about one in four of those aged 60 and above were either living alone or staying with another elderly person (Hong Kong Government 1977:2). In studies on the living pattern of the urban elderly (aged 65 and over) in Taiwan, though more than 75 percent of them were found in the early 1980s to be living with their grown-up children, there was an obvious trend for an increasing number to live alone (Luo 1985:8-11). In a survey on the senior citizens (aged 55 and over) conducted in Singapore in 1982, it was found that 81.4 percent of them were still living with their children, but the rest were either living alone or with spouses or other persons (Singapore Ministry of Social Affairs 1983:12). In Korea, according to information released by the Ministry of Health and Social Affairs, the number of three-generation households had decreased from 26.7 percent in 1966 to 21.0 percent in 1975, though it was stressed by the Ministry that "the ties between parents and offsprings are still close and strong even in cities" (Korean Ministry of Health and Social Affairs 1979:43). In Shanghai, a survey conducted in the early 1980s revealed that of the 3,380 households with pensioners interviewed, 78 percent, or 2,637 households had pensioners living with their children (Fudan University 1981:31).

To sum up, it seems obvious that the norm of this region is for the urban elderly to live with their grown-up children; there is even shame in not doing so, though the trend is set for an increasing number of them, either out of choice or necessity, to live alone or with persons other than their children.

So far as developing countries are concerned, whether or not the elderly are living with their children still determines to a great extent their possibility of receiving help from the latter. The fact that the majority of the urban elderly in this region are continuing to live with their children indicates that the support of the elderly remains largely a family matter, and this will help not only in reducing the difficulties of the aging process, but also in relieving the burden of the state in supporting a great number of lonely elderly (Nusberg and Osako 1981). However, in view of the rising number of nuclear families, it will be useful for governments to institute measures to encourage children to live with their elderly parents so as to maintain the prevailing mode of co-residence between generations.

The formation of nuclear families may have only deprived a small portion of urban elderly in this region of the opportunity to live with their children, but setbacks in their economic status are bothering all. Rather than holding the reins of economic resources as they used to do, the urban elderly in this region are now economically dependent on either their children or the state for a living (Thompson 1983). Recent studies conducted in some of the cities in this region showed that very often the poor consisted largely of elderly persons who lived alone. For example, nearly two-thirds of the 62,000 public assistance cases at the end of 1985 in Hong Kong applied because of poverty in old age. Other research findings further showed that the failure of the urban elderly to support themselves in old age and their subsequent need to depend on their children often induces an adverse relationship between the two generations (Chow 1983).

It is a common phenomenon for the urban elderly to be economically dependent. In Taiwan, a recent survey revealed that only 15.8 percent of the elderly interviewed were able to support themselves, while 21.2 percent depended on the support of the eldest son and 59.3 percent had the burden shared between the children (Kiang and Chang 1985:44). The same situation also existed in other cities: a survey in Singapore reported that 84 per cent of the elderly interviewed regularly received financial and material support from their relatives (Singapore Ministry of Social Affairs 1983:25), and in Korea, a national survey conducted in 1974 found that 56.7 percent of those who had retired expected financial support from their children (Korean Ministry of Health and Social Affairs 1979:42). But in Shanghai, as the majority of the elderly there are receiving retirement pensions, they are usually less dependent financially on their children, and some of them are even reported to be regularly giving money to children who earn little (Shanghai Committee on Aging 1984).

Nevertheless, the general situation of the urban elderly in this region is that most have been relegated to a subjected economic position with some even having to resort to assistance from the state. This situation has arisen partly from the lack of retirement benefit schemes in most countries of this region (Wadhawan 1979). Even for those which have introduced social insurance or provident fund schemes, the benefits given can seldom form a reliable source of financial support for the retired. For example, members of the Central Provident Fund in Singapore can only obtain on retirement what they had accumulated, and the sum is acknowledged to be inadequate for the needs of the entire old age period. In Taiwan, again only lump sum benefits equivalent to a few years' salary (one month's salary for every year of coverage) are given to employees who retire under the Labour Insurance Scheme (Kaim-Caudle

1983); as a result, only 13.3 percent of the elderly interviewed in a survey in Taipei were reported to be living solely on their retirement pensions (Shiau 1985:11).

Indeed, other than the examples mentioned above, the majority of employees working in the cities in the East and Southeast Asian region are not yet provided for in their old age. The fact that only a small proportion of the urban elderly are entitled to the rights of financial independence implies that most have simply to fend for themselves or to seek support from their children. Of course, problems would not have arisen if they could either save up enough while working or their children were prepared to support them. However, as the present group of urban elderly were usually paid meager wages while working and had heavy family responsibility, their saving capacity was often very low. Besides, most did not see the need to save up for old age as they had never seen their ancestors do so. But when it comes to seeking support from children, evidence indicates that the younger generations are less and less willing to shoulder the responsibility of supporting the old (McGillivray 1980).

To summarize, most urban elderly in this region are economically dependent because their countries are not providing them with adequate income protection schemes, and often the elderly themselves have not made preparations for an old age in which they can be independent financially. This has forced many of them to accept a subjected economic position in both the family and the society and created a high incidence of poverty among the elderly population.

For the urban elderly in this region who still believe that old age should be an honoured period of life, economically dependent status is indeed hard to bear. The esteemed position the aged used to occupy in the past was supported to a large extent by the economic power they had as head of the household or owner of the land. However, with the changed circumstances and the present elderly being forced to depend on their children for financial support, they suffered an inevitable loss of status as they have not only to admit inadequacy but also accept a minor role and weakened functions (Ikels 1983:3-35). Studies on their life-style in fact have revealed that an entirely new image of the elderly is now emerging, very different from the one traditionally held.

There is now little evidence to show that the urban elderly are still venerated by members of their families and the society. The government in Singapore has recently found it necessary to reiterate the teachings of Confucius and to stress the importance of filial piety (Richardson 1982). To follow that up, Singapore's Ministry of Health, in a 1984 report on the problems of the aged, stated that one of the elements of a policy for the aged must include a strengthening of "the traditional family system .... through moral education and the inculcation of the virtues of filial piety, respect for the elderly in the family and general reverence for old age" (Singapore Ministry of Health 1984:5). In another study on the changing life-style of the elderly in Hong Kong, it was found that those interviewed usually had a very low image of themselves and that they expressed a strong feeling of isolation and uselessness (Chow and Kwan 1984). In Korea, where industrialization has only had a short history, the Korean Ministry of Health and Social Affairs, while stating on the one hand that "the traditional values of the Korean family are characterized by the filial piety based on Confucianism, the hierarchical order centered around the unshakable position of the patriarch," admitted on the other that "with the spread of the idea of efficiency and rationalism demanded by the industrial society, the traditional family-centered values have come to lose much of their significance" (Korean Ministry of Health and Social Affairs 1979:42). Even China, in a paper presented at the U.N. World Assembly on Aging in 1982, emphasized that it was time that the elderly be given a proper role to play in their families and in society (Chinese National Committee on Aging 1983:229-232).

It is thus fair to say that other than financial inadequacy, the worst problem that the urban elderly in this region are facing is the loss of a role to play. The Chinese National Committee on Aging in a national conference on the elderly held in August 1984 has put up a slogan stressing that the elderly must be "financially supported, cured when ill, have a proper role to play, have opportunities to learn and things to enjoy" (Yu 1984). Indeed, an important thing for the elderly is that they must be able to see themselves as being useful.

Studies so far have indicated that most of the urban elderly in this region have often failed to find a meaning in life. The National Survey of Senior Citizens in Singapore found in 1983 that the most common leisure activities of the elderly were watching television, listening to the radio and going for walks (Singapore Ministry of Social Affairs 1983:45). A study conducted in Taiwan in 1983 found that out of the 636 elderly respondents, 141 admitted that they felt lonely (Kiang and Chang 1985:47); though the number seems small, it has to be remembered that to be lonely in old age is still a shame in a Chinese society. The situation appears to be even worse in Hong Kong where a survey found that nearly two-thirds of the 441 elderly interviewed agreed that "to be old is to wait for the coming of death" (Chow and Kwan 1984:48). Another study also found that elderly abuse is becoming a pressing issue in Hong Kong (Chan 1985). Indeed, the life of the urban elderly in developing East and Southeast Asian countries leaves much to be desired. The task facing policy makers for the elderly is not merely a matter of securing adequate support for them, but also there is a need to create a life which the elderly will find meaningful.

The needs of the urban elderly in this region, as revealed by the research studies, are varied and go beyond material support. In the study conducted in Taiwan by Kiang and Chang, the greatest need of the elderly was found to be psychological support, followed by health services and financial assistance (1985:44). The Committee on the Problems of the Aged in Singapore (1984:5) also stressed the importance of "continued employment and participation in family and community activities" by the elderly. The Korean Government, in a statement on social development strategies, stated that it should be "concerned with human alienation in a modern industrial society, a society in which people are spiritually starving even in the midst of material affluence." The strategy to be adopted should thus be "a well-balanced development between the material and spiritual aspects of life" (Korean Ministry of Health and Social Affairs 1979:45).

In summary, most countries and regions under examination seem to agree that in meeting the needs of the urban elderly, attention must be paid to their material and non-material aspects. This emphasis is attributed to the fact that, despite the general absence of adequate income protection schemes for old age, the majority of the urban elderly in this region can still have their basic needs met by continuing to live with their children; but they find it much more difficult to adjust to a fast changing city life, since they receive little assistance in meeting this new situation. Surveys conducted in Hong Kong and Singapore indicated that, as a result of their inability to lead an active social life, most of the elderly are forced to stay at home, and their only role is to help in household chores or in looking after their grandchildren. These duties, which now fall mainly on the elderly, used to be performed by their daughters or daughters-in-law, who now often choose to go out to work after marriage. The contribution of the elderly in household chores is in fact very valuable, serving as a stabilizing force in the family. But this role is seldom recognized, and the elderly are subsequently relegated to a position equivalent to domestic servants. In addition, there are other restraints which prevent the elderly from leading an active social life. For example, community activities specially tailored to the needs of the elderly are scarce and often non-existent. So inactive are the elderly that despite their growing numbers, they have hardly made their presence felt except by those supporting them.

Policies and Strategies to Help the Urban Elderly

It should be pointed out that only recently has the problem of the urban elderly caught the public's attention in the East and Southeast Asian region (the last ten years or so). In Hong Kong, a working party to look into the future needs of the elderly was established by the Government in 1972 (Working Party on the Future Needs of the Elderly 1973), and the relevant policy paper on the development of social services for the elderly appeared in 1977. The Korean Government in the late 1970s still thought that "it will be beneficial to the Korean social security system to promote the still remaining social ethic of the support of old parents and respect to the elderly, and to leave the support of old parents to their grown-up offsprings primarily and then to expand the social security to the supporters" (Korean Ministry of Health and Social Affairs 1979:46). In Singapore, the needs of the elderly were not discussed until a few years ago when, in 1982, the Government set up a Committee on the Problems of the Aged. The Committee subsequently conducted a survey to find out the conditions of the elderly and made recommendations for government action. In Taiwan and Shanghai, the needs of the elderly have been given greater attention in recent years; a law to promote the well-being of the aged was promulgated in Taiwan in 1980 (Hsu 1985), and the Shanghai Municipal Government has recently improved its care for the elderly through the services provided by its Civil Affairs Bureau (Shanghai Committee on Aging 1984).

Since policies to support the elderly have not been formulated in the above countries and regions until lately, relevant measures and services instituted are thus few and rudimentary. Generally, these countries and regions are still relying to a large extent on the family system to provide the major portion of care and support for the elderly. Even in Singapore and Hong Kong, where resources are more readily available as a result of rapid industrialization, social services for the elderly are still found lacking in most instances. The overall situation can be summarized by Little's (1982:16-17) four hypotheses regarding the provision of social services for the elderly, namely: the universality of services given by families and relatives; the existence of institutions such as private homes for old people who can afford to pay; the precedence of public institutional care over community care; and the general lack of home-delivered services to supplement family care. A further analysis of the data available suggests that four different stages can be identified regarding the development of support systems for the elderly in the countries and regions under examination. These four stages are:

Stage 1: Support comes entirely from families and relatives. It is morally obligatory for children to support their elderly parents and failure to do so is regarded with shame.

Stage 2: Private or charitable institutions for old people are established and accepted as an alternative to family care, especially for the lonely elderly.

Stage 3: Public provision of social services is acknowledged as necessary to supplement family support. The "open care" concept is introduced with community support services provided side by side with institutional care.

Stage 4: Attempts are made to adopt an integrated approach towards the support of the elderly, including a balanced development of cash assistance, in kind services, and a combination of public and family efforts.

There is no denying that each country may have its own unique situation, but those under examination seem to have followed a similar pattern in developing their policies regarding the support of the elderly. Hence, in the initial stage when the care of the elderly became an issue of public concern, these countries usually reacted by emphasizing the importance of family support and the undesirability of public intervention. In a policy paper on social welfare services published in 1965, the Hong Kong Government stated that "social welfare services should not be organized in such a way .... [so as to encourage] the natural family unit to shed on the social welfare agencies, public or private, its moral responsibility to care for the aged or infirm" (Hong Kong Government 1965:5). The Korean Government in the late 1970s held the opinion that "it is questionable whether to keep on the social security program in such a way that may further the disintegration of the family in general ...." (Korean Ministry of Health and Social Affairs 1979:46).

Statements like the above two can also be found in policy papers of other countries in this region when the care of the elderly first attracted public attention. However, as more and more old people needed care outside the family system, institutions for the elderly began to increase in number, established mostly by charitable organizations; these were also gradually accepted as a viable alternative to family care. At a later stage, the demand for support services for the elderly outside the family system was so great that it necessitated public intervention.

By and large, most of the countries and regions under examination have now entered stage 3 where the care of senior citizens has been accepted as a government responsibility, though the role of the family system is very much emphasized. For example, a national policy for the elderly recommended in Singapore in 1983 aims at combining the different roles of the government, the family and other voluntary and charitable bodies in support of the elderly. The law promulgated in Taiwan to promote the well-being of the aged also recognized the responsibility of the Government in the care of the elderly.

In summary, the present question for the developing countries of East and Southeast Asia is no longer the necessity or otherwise of government intervention but the extent to which the government should assist the family and the level of resources the government should allocate for such purposes.

In fact, despite the short history of public provision, the range of social services now available in some of the countries and regions under study has increased so rapidly that it is comparable to developed countries in the West. For example, in Hong Kong a "care in the community" approach has been adopted since 1973 to enable the elderly to remain in their own homes. With this approach, a wide variety of community support services have been introduced including community nursing, hostels, day care centers, canteen and laundry services, home help and social centers (Hong Kong Government 1977).

Other cities in this region, like Singapore and Shanghai, have already emphasized that the relevant policies must not be confined to the establishment of institutions, though their community support services for the elderly are still limited. The Shanghai Municipal Government has been active in recent years in organizing cultural and recreational activities for the elderly; educated retired persons are also provided with opportunities to contribute towards the society's well-being by acting as reformatory school counsellors, translators and advisors (Fudan University 1981:35). The national policy for the elderly recommended in 1984 in Singapore also proposed to "give older workers more employment options such as part-time work, flexitime, work that can be done at home and work on an alternate day basis" (1984:6). It appears that national policies for the elderly in this region are seldom confined to merely the necessary institutional and community support services; emphasis is often placed on helping the elderly to truly become members of the community to which they belong.

Thus, while social services for the elderly may still be found lacking in the cities of this region, relevant policies so far formulated show certain common characteristics. Two of them are worthy of detailed discussion. The first special feature is the emphasis on the continued importance of the family system in caring for the aged. This arises partly from the fact that due to the lack of resources, the family system is simply indispensable in contributing towards the care of the elderly. However, the emphasis seems also to be based on a genuine belief that only within the family system can an elderly person find true satisfaction and happiness. It can even be argued that so long as this belief is held by the majority of the people in East and

Southeast Asia, a national policy for the elderly can never ignore the functions of the family.

The second special feature is the importance given to both the material and non-material aspects of the lives of the elderly. As the Korean Government once put it, "issues of individual happiness or social welfare must fundamentally be more a matter of metaphysics, ethics, and value judgements than a matter of visible materialism" (Korean Ministry of Health and Social Affairs 1979:45). The non-material aspects are no doubt abstract and intangible and are thus difficult to define and fulfil. Nevertheless, planners in countries of this region who do not pay attention to the spiritual needs of the elderly will fail to come up with a satisfactory policy. At the present stage, it may be difficult to assess the extent to which policies on the elderly formulated in developing countries of the East and Southeast Asian region can actually satisfy the material and non-material needs of the elderly, but they certainly have their own special purposes to achieve.

Conclusion

Since the urban elderly in developing countries have only grown in numbers in recent years, it is not surprising that services provided for them are short in supply. The examination of the conditions of the elderly living in major cities of developing countries in East and Southeast Asia reveals, however, that although the majority of them are living with their families, the difficulties they encounter are still enormous. The subjected economic position which most of the elderly now occupy has not only greatly reduced the respect shown to them but has also made them feel inadequate and isolated. Life to a substantial proportion of them is indeed dull and meaningless. Furthermore, the elderly are often deprived of any positive role to play in their families and in the society.

The policies being enforced in countries of this region to support the elderly have mostly been introduced in recent years; retirement benefit schemes form in most cases the only measures implemented on an extensive scale, but the amounts given are admittedly inadequate. As for community support services for the elderly, their importance has only recently been accepted as a necessary supplement to the functions performed by the family system. A further analysis of the relevant policies reveals that in supporting the elderly, most countries under examination have not only stressed the important role of the family, but also the necessity to satisfy both their material and spiritual needs. The extent to which these countries are able to achieve these objectives has yet to be assessed. In the meantime, many urban elderly in developing East and Southeast Asian countries are no doubt enduring a difficult life which they have neither expected nor been prepared for.

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SOCIAL SUPPORT FOR THE AGED
IN RURAL AND URBAN AREAS IN JAPAN

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Japan's elderly population is rising at a pace that has been unparalleled by other nations. Demographic changes of postwar Japan are clearly discernible from indicators that point to the magnitude of population aging which has taken place over this relatively short period. In the last 30 years, the number of persons over age 65 has more than doubled from 4.7 million to 11.9 million, as mortality declined and life expectancy increased with unprecedented speed (Table 1). This shift has brought about an increase in the proportion of elderly persons in the population, from 5.3 percent in 1955 to 9.7 percent in 1985. It is currently estimated that population aging in Japan will proceed further, and at a pace even faster than that of the past. By the year 2015, therefore, Japan's older population is expected to again more than double, by increasing to 27.3 million. As fertility of younger cohorts decline further, this figure implies that 21.2 percent of the Japanese population will be aged in 30 years from now. This proportion is higher than that currently projected for any other country in the world.

The increase in life expectancy underlying this trend has indeed been rapid, rising from 59.57 years for men and 62.97 years for women in 1950, to 74.54 years for men and 80.18 for women in 1984 (Table 2). Yet this longevity has now become cause for concern, for its consequences on the durability of the social security system, medical and social services and family support, as well as on the structure of the future labor market. It seems apparent that current forms of state, community and family support cannot endure, as the number of Japanese elderly increases by millions, and their need becomes more complex in nature.

There is also concern raised over the need to address the urban and rural discrepancies pertaining to the needs of the aged. Currently, the rural aged (residing in agricultural households) constitute 15.6 percent of all persons over age 65 in Japan (1). Their numbers have increased from 2.8 million to 3.3 million over the past 20 years (1960-1980) despite an overall decline in the total rural population that resulted from Japan's rapid shift towards secondary and tertiary industries (Tables 3 and 4). The proportion of elderly in rural areas has always remained higher than in urban areas, but the gap now seems to have widened as labor demands of urban centers drew younger cohorts away from their rural origins.

The proportion of Japanese elderly in rural agricultural households increased from 8.2 percent to 15.6 percent between 1960 and 1980 and is projected to reach 19.3 percent by 1990 (2). Analogous national figures are 5.7 percent for 1960, 9.1 percent for 1980 and 11.6 percent for 1990. Problems confronting the rural aged in Japan, then, are that they are increasing at a pace faster than that of the rest of the

Table 1 Population Trends by Age

Year	0-14	15-64 (percent)	65	Total 65 (thousands)	Total Population (thousands)
1955	33.4	61.3	5.3	4,747	89,275
1965	25.6	68.1	6.3	6,181	98,276
1975	24.3	67.7	7.9	8,865	111,940
1985	22.9	67.4	9.7	11,909	122,333
1995	17.1	69.3	13.6	17,082	125,383
2005	18.4	64.5	17.1	22,228	130,008
2015	17.3	61.5	21.1	27,311	129,332
2025	17.2	61.5	21.3	27,079	127,184

Source: Prime Minister's Office, Bureau of Statistics, National Census; Ministry of Health and Welfare, Institute of Population Problems, Future Population Projections.

Table 2 Changes in Life Expectancy at Birth (years)

Year	Male	Female
1950	59.57	62.97
1955	63.60	67.75
1960	65.32	70.19
1965	67.74	72.92
1970	69.31	74.66
1975	71.73	76.89
1980	73.32	78.83
1984	74.54	80.18

Source: Ministry of Health and Welfare, Statistics and Information Department.

Table 3 Urbanization Trends

Year	Urban Population (%)	Rural Population (%)	Total Population (thousands)
1950	50.3	49.7	83,625
1960	62.5	37.5	94,096
1970	71.4	28.6	104,321
1980	78.3	21.7	116,551
1985	80.9	19.1	120,208

Source: United Nations, Department of International Economic and Social Affairs, Demographic Indicators of Countries: Estimates and projections as Assessed in 1980, New York, 1982

Table 4 Industrial Composition in Japan*

Year	Primary Industry	Secondary Industry	Tertiary Industry
1920	54.9%	20.9%	24.2%
1930	49.8	20.3	29.9
1940	44.6	26.2	29.2
1950	48.3	22.0	29.7
1960	32.6	29.2	38.2
1970	19.3	34.2	46.5
1980	10.9	33.5	55.6

* By number of persons employed

Source: Prime Minister's Office, Bureau of Statistics, National Census and Japan Statistical Yearbook.

country and that support resources may not become available as fast as they are needed.

Public provisions for the elderly, in principle, are designed to affect the rural and urban aged alike, as part of the national social security system in Japan. The universal pension scheme, instituted in 1961, made participation in one of the eight pension plans compulsory for all Japanese citizens (3). Those currently over age 72 may receive approximately $80 per month from the Old Age Welfare Pension -- not part of the eight pension plans -- if their income is below a certain threshold, because they were too old to join the pension plans in 1961 (4). Agricultural workers, categorized for the most part as self-employed persons or persons employed in family business, contribute to the National Pension Plan (Kokumin-Nenkin) to receive a flat sum of $160 per month at age 65. Benefits from the Employee Pension Plan are higher and more dependable as a primary source of income ($560 per month), but they are only available for the younger generation of aged who have had the employment opportunity and length of time to contribute into the plan.

A relatively large proportion of Japanese elderly remain in the workforce beyond official retirement age (55 years of age) and supplement the insufficient pension income. We find that 39 percent of Japanese men over age 65 are engaged in full- or part-time employment (5). The rural aged constitute a relatively high proportion of those who continue to work (30 percent), indicating both a higher need for supplementary income, as well as the relative ease of continuing work in self-employment.

The Medical Subsidy Program for the Aged (Rorei Iryohi Shikyu Seido) is available for those over age 70 who require medical attention in both rural and urban areas. This subsidy permitted care at no cost to the aged of most income levels until 1984. The Government, however, has since that time attempted to curb rising expenditures by introducing a partial self-payment scheme applied to everyone.

Social services for the aged in Japan are characterized by the strong emphasis placed upon target populations. Vital services such as home health care, bathing service, meal service or telephone reassurance are available mostly for those living alone or those bedridden at home. These services tend to be more generally available in urban areas where economies of scale operate. Target populations, however, can be more "visible" in smaller communities of semi-urban and rural districts, since state welfare commissioners (minsei-iin) and agents appointed by neighborhood associations (chonaikai) can usually identify them more easily within their districts.

However, no assessment of the adequacy of formal provisions in Japan can be made without paying attention to the support resources that are available in the informal sector. In Japan, the "private initiative" remains the primary source of support for the elderly in financial, physical and emotional terms, and in practice, it is found almost exclusively within the family.

The overall premise that underlies this arrangement in Japan is that the unit of self-sufficiency and of self-help for the aged does not rest with the individual but with the family. Targeted state intervention of the kind described earlier is designed to provide for persons whose families fail to support the aged in one way or another. The Old Age Welfare Pension, most formal social services and even the Medical Subsidy Program, in principle, presuppose the family as primary providers by setting up eligibility criteria for provision in terms of households. This arrangement is supported also by Japanese family law which stipulates legal responsibility for a child to support an elderly parent.

Thus, life of the Japanese elderly is intricately tied to that of their children. About 70 percent of the aged in Japan live with their children, primarily in three-generation households. Smaller proportions find themselves living alone or only with their spouse (7.8 percent and 18.1 percent respectively) (7). The tendency to live with children is prevalent regardless of age, sex or marital status of the aged -- a legacy of the primogeniture inheritance practice that existed before the Second World War. As a result, elderly parents even today predominantly live with their eldest son and the latter's wife and children. The care-taker responsibility of the frail elderly at home, therefore, rests in practice with the daughter-in-law.

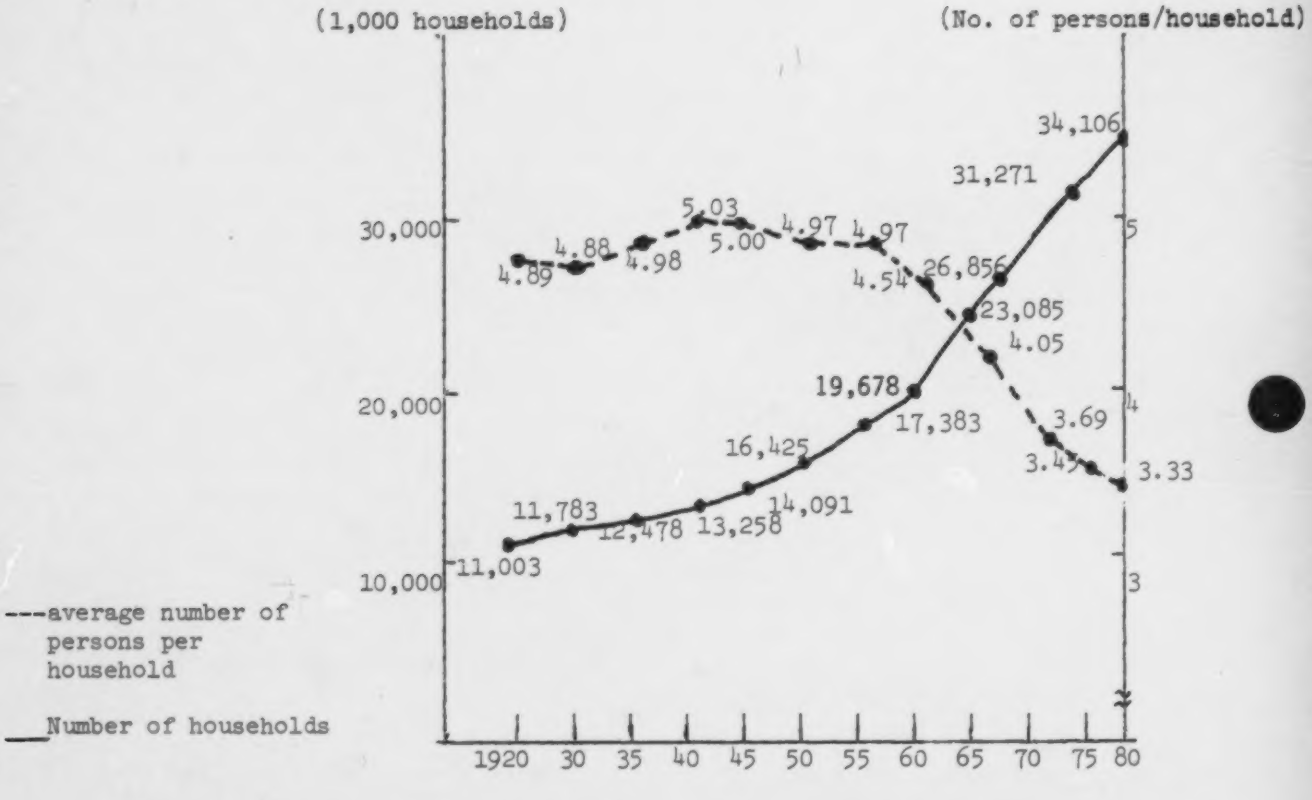
Concern over the durability of this family support system derives from evidence of change in the social and economic conditions surrounding the family, such as declining numbers of children, rising divorce rates and greater geographical and occupational mobility. The growing trend toward the nuclear family has become more apparent since the late 1950s (Figure 1), and the proportion of those living with children has concomitantly declined from 87.4 percent in 1960 to 79.7 percent in 1970, and to 69.8 percent in 1980 (8).

The tendency for the Japanese to live with their aging parents is more pronounced in rural areas (54 percent) than in metropolitan (24 percent) and other urban areas (35 percent) (9). Surveys of the aged and their middle-aged children conducted by the Management and Coordination Agency (10) in 1974 and 1983-85 reveal no drastic change over the last decade for both urban and rural areas (although longitudinal comparison between the surveys must be made with caution, since different respondent categories and wordings were used) (11). A consistent difference between rural and urban areas was found, however, in attitudes towards family support, while actual support rendered by the family did not seem to differ greatly.

The rural aged tend to be more traditional in their expectations toward support by their children. The rural aged were more likely to feel it is a child's duty to support aging parents in financial terms (69 percent) than their counterparts in larger cities [(i) major cities: 57 percent, (ii) cities over 150,000 inhabitants: 63 percent, (iii) cities with less than 150,000 inhabitants: 63 percent in 1974a] (12). They were also more persistent in expecting the eldest son and his wife to look after their physical needs when ill (70 percent), than were the urban aged [(i) 45 percent, (ii) 57 percent and (iii) 65 percent]. Rural middle-aged children also tended to maintain the more traditional view that it was the natural duty of children to live with aging parents (76 percent), than their urban counterparts [(i) 58 percent, (ii) 67 percent and (iii) 68 percent in 1983].

Figure 1

Changes in Household Trends



Source: Economic Planning Agency, Social Policy Bureau, Japanese Family, 1980, p.10

Rural/urban differences are less pronounced in terms of the actual support rendered. The rural middle-aged respondents of three generation households tended to have less income than those in larger cities (Management and Coordination Agency, 1985a). Yet, according to a study by the Management and Coordination Agency (1983b), aging parents in rural areas received as much financial help from their children (53 percent) than did their counterparts in larger cities [(i) 47 percent, (ii) 46 percent, and (iii) 49 percent]. Aging parents in rural areas who did not live with their children saw as much of them daily (23 percent), as did their counterparts in larger cities [(i) 28 percent, (ii) 24 percent and (iii) 19 percent] (Management and Coordination Agency, 1974a). Thus, actual methods of coping with the needs of aging parents did not seem to differ greatly between urban and rural areas, despite differential expectations towards filial support.

The foregoing data indicate that the normative connotation of family support is different between rural and urban areas, while the solutions to the problems of old age remain quite similar despite this difference. This seeming incongruity is indicative of the changing dynamics of the care for the aged in Japan today. The junctures of change and continuity where new and old options meet can be seen more concretely in the case of a town called Nakai, a semi-agricultural town of 9,000 inhabitants in the Ashigara Kami-gun district of Kanagawa Prefecture.

Nakai is a town that is on the decline as an agricultural community, not because of the geographical mobility of the young but because the town itself has become more industrial and urban. Agriculture offers fewer financial rewards for many Nakai residents today who are drawn to wage labor in the newly developed enterprises of nearby cities within commuting distance. Nakai is part of a typical phenomenon in Japan where the need to adapt to changing production and sales transforms the agricultural community into a town of mixed occupations. Agricultural land now comprises 35 percent of Nakai, while residences and smaller scale enterprises occupy 20 percent of the town area.

Japanese rural villages became incorporated into towns very rapidly during the period of economic growth (Table 5 and 6) -- especially for communities like Nakai which are relatively close to larger urban centers. As the proportion of those engaged in primary industry declined in the nation as a whole, so Nakai grew also from being a village of 5,950 inhabitants of whom three-quarters were engaged in the primary industry in 1955 to a town of 9,000 inhabitants of whom one-fifth worked in the primary industry in 1980 (13) (Table 7).

The path taken by a community such as Nakai is one where agriculture was not abandoned by landed families but retained by reduction of scale and by division of labor within the family. The phenomenon is known as the combined occupation households (Kengyonoka), where some members of the family-- usually women and the aged -- continue agricultural production, while the more "employable" engage in wage labor in nearby cities. This trend has become prevalent particularly since the 1960s when specialized agricultural households began to decline at a rate much faster than that of agricultural households overall -- nationwide as well as in Nakai (Table 8). This phenomenon is embedded in particular social, economic and psychological

Table 5 Cities, Towns and Villages

Year	Cities	Towns	Villages	Total
1945	206	1,803	8,527	10,536
1950	248	1,877	8,289	10,414
1955	491	1,864	2,458	4,813
1960	556	1,924	1,031	3,511
1965	561	2,000	815	3,376
1970	578	2,013	684	3,275
1975	644	1,976	637	3,257
1980	647	1,993	616	3,256

Source: Prime Minister's Office, Bureau of Statistics, National Census

Table 6 Post-War Economic Growth

Year	GNP (billion US$)	Real Growth (%)
1950	110	12.2
1955	240	10.8
1960	430	12.5
1965	891	5.7
1970	2,042	8.3
1975	5,013	3.6
1979	10,085	5.5

Source: - IMF, "International Financial Statistics Yearbook", 1979, 1980.
- Yano, I. (ed.). 1981. Nihon no 100 nen.

Table 7 Industrial Composition in Nakai*

Year	Primary Industry	Secondary Industry	Tertiary Industry
1955	75.7%	9.1%	15.2%
1960	65.3	16.8	17.9
1965	51.4	24.5	24.1
1970	41.5	28.3	30.2
1975**	27.7	33.9	37.8
1980**	20.1	39.1	40.7

* by number of persons employed.
** Figures do not add up to 100.0 due to unclassified occupations.

Source: - Ashigarakami Hokenjo, Nakai-machi Chiku Hoken Katsudo Shiryoshu, Vol. 1, 1977
- Nakai-machi Yoran, 1983

Table 8 Proportion of Income Derived from Agriculture, 1930-84

Year	All Income	>Half of Income	<Half of Income	Agricultural Households	Percent of Total Households
Japan				(thousands)	
1930	72.2	--	--	5,600	44.9
1940	68.8	--	--	5,480	38.9
1950	50.0	28.4	21.6	6,176	37.6
1960	34.3	33.6	32.1	6,056	30.8
1970	15.6	33.7	50.7	5,342	19.9
1980	13.4	21.5	65.1	4,661	13.7
1984	13.5	15.4	71.1	4,473	8.3
Nakai					
1965	23.0	42.0	35.0	710	--
1970	22.0	38.0	40.0	695	57.7
1975	13.0	38.0	49.0	640	40.4
1980	13.0	27.0	60.0	586	25.8

Source: - Ministry of Agriculture, Forestry and Fisheries, Agricultural Census, *Statistical Tables*, and *Basic Statistics on Agriculture in Japan*.
- Ministry of Health and Welfare, *Kosai Gyosei Kiso Chosa*.
- Hasegawa, A. *Noson no Kazoku to Chiiki Shakai*, 1986, Tokyo, Ochanomizu.
- Ashigarakami Hokenjo, *Nakai-machi Chiku Hoken Katsudo Shiryoshu*, vol. 1, 1977.
- Nakai-machi *Yoran*, 1983.

conditions of Japanese farmers which goes beyond the scope of this paper (14). However, it offered options to younger people in rural areas to pursue different occupations while remaining there in residence. Younger people in Nakai may continue to live with aging parents in three generation households while employed in city jobs at the same time. The "desertion" of the rural aged is less likely to occur in parts of Japan where turning to kengyo makes rural residence and wage labor compatible.

The elderly comprise 8.3 percent of Nakai's total population, lower than the national average, which attests to the larger presence of younger age cohorts in the town. Of these, almost all (roughly 95 percent) live with their children. We find that 68 percent draw pensions from the National Pension Plan or the Old Age Welfare Pension, and 12 percent receive an additional Agricultural Pension (Nogyosha Nenkin), which is designed to encourage the aged to retire and the younger sons to take over the family's agricultural business (15). Public services (such as medical examinations, meals services, bathing services and elder's clubs) were in no shorter supply in Nakai than in Odawara, a nearby larger urban center. The target-specific nature of the social service operation was also the same as in Odawara, in catering primarily to those living alone or bedridden at home. None of the agriculture specific programs for the aged administered by the Ministry of Agriculture and Fisheries (loans on investment, use of communal land, etc.) were thought to be in enough demand to warrant implementation by the town administration.

Care for the aged remains very much a family affair in Nakai, as the high rate of those living with children indicates. Community organizations and the town administration play supplementary roles with some degree of success in a town of Nakai's size and agricultural history. Their activities partly take over the supportive role of the family and yet latently reinforce family support, since they tend to clarify and monitor the family functions.

This can be seen in the case of a particular program -- a community-wide health monitoring system -- that was instituted in 1978 when it was discovered that incidence of stroke was extraordinarily high in Nakai. Town leadership at the time brought in outside experts, who embarked on a complete population health survey and health campaign with the Town Health Center. A centralized provider infrastructure came into being as a result of this campaign, supported by a range of community agents and neighborhood associations (traditional mutual help organizations). Nakai residents with different community functions total 242 in number (minsei-iin: welfare commissioners, fukushi-iin: promotion committee members, chonaikai-eisei-iin: health committee members of neighborhood associations, rojin-sodanin: elderly counsellors, and town registered volunteers), in addition to professional welfare officers and health care personnel.

This community care structure may reinforce the sense of belonging or security for the residents (16) but, at the same time, may turn the need and care of each household into semi-public knowledge. New options are created for the aged as help resources become more triangulated; yet at the same time, families are pressured into assuming their share of responsibility in the "proper" manner. In this case, community care becomes a powerful tool of social control in the town.

Rural communities geographically remote from the employment opportunities of larger urban centers confront a different kind of situation. Those agricultural towns and villages have fewer options in turning to kengyo as a way of adaption to the changing economy in a country which is no longer an agrarian society. They also tend to endure harsher natural conditions, more restricted transportation and more limited resources. The aged of these districts, therefore, live under conditions in which both traditional family support and new social services are harder to maintain. The problem of old age in these areas is thus part of the larger social problem of declining agrarian communities that are no longer viable in their primary business production.

The urban aged may also confront a situation in which fewer family and community resources are available, but for different reasons. Their solutions tend to be of somewhat wider range than those found elsewhere. Urban centers are normally too large to generate the kind of community support described for Nakai but may develop a larger variety of social services by economies of scale. They may also gain more financial independence with larger benefits available from the Employee Pension. But despite the alarm raised over the changes in family structure and values in the cities, care of the aged is largely contained within the family when need is demonstrated. Younger urban households may not necessarily include aged members while they are healthy, but most tend to take in the aged when they become ill.

In view of the regional variation and social change that has taken place in Japan over the past decades, it is remarkable that the solutions to the problem of old age are still found to remain predominately with the children. Support resources for the aged in a town like Nakai differ from those of remote villages and those of metropolitan cities not so much in kind but in degree. Old and new resources may be combined differently from region to region, but the primary source of support rests consistently with the family. Thus the traditional support structure remains relatively intact despite the changing social environment. And even if co-residence with children should decline at the present rate, it is still expected that half of Japan's elderly population will be living with their children at the end of this century (17).

Some factors that sustain the present form of care for the aged can be identified to help us appraise both the changes and continuities and the future viability of the social support systems in Japan. The first of these is the persistence of filial piety norms that provide the ideological basis for fostering family support in Japan. The package of mutual obligations between parent and child -- centered on property inheritance in exchange for care in old age -- has traditionally persisted along this ethical code. While changes in the Family Inheritance Law after World War II have done away with the legal basis of this mutual exchange, the code of ethics has remained, particularly because the practical need still exists to rely on the informal social security system within the family.

The exchange of support resources between parent and child makes a great deal of economic sense for the current generations of Japanese. Intergenerational households may thus be construed as the pooling together of limited material resources by different generations. For example, housing is a major consideration for both old and young in this mountainous country of high land prices and population density. Particularly for the young starting at the bottom of the seniority based wage structure, additional family resources can be of much significance. The earnings curve is also particularly low for the old who may require financial assistance in spite of land and home ownership. The economic rationale of the three generation household is particularly powerful when the needs and resources of each age group is predictable and cyclical in a structured society like Japan.

The same rationale also operates for human resources within the intergenerational household. Nursing a bedridden parent may require the round-the-clock attention more easily provided in larger households. Child care can also be shared by different generations of mothers when necessary. With social provisions remaining targeted at the current level, there are few realistic and dependable options available outside the intergenerational household. Thus the scarcity of external resources paradoxically forces the family to yield richer human resources within the household.

The intergenerational household, however, does not operate without a price. Many concessions -- often of a painful nature -- are required to accommodate to the needs of different generations on a daily basis. Much family responsibility and unwelcome constraints are experienced by the Japanese from early adulthood, only with a pay-off in old age. The exchange between different generations can work only when mutual obligations are balanced over the long-run.

The system of social support based on private initiatives and principles of mutual obligation seems suited from the viewpoint of society to protect its weaker members. It exacts a higher price from individuals in terms of their freedom and independence but provides greater security at less social cost. The notion that sacrifice is distributed across generations becomes more visible and concrete when the give-and-take is contained within the family, rather than extended to an abstract entity such as the state.

Increasing individual resources are likely to open alternative options for supporting the aged in Japan. But the dependability and protectiveness of care that the Japanese continue to seek today are less likely to become part of the state provisions as they are envisaged for today and tomorrow. As long as this strong expectation remains anchored in the lives of the Japanese, and reciprocity norms are shared between generations, support for the aged in Japan is likely to continue to rest with the children despite growing demands in the changing social environment.

ENDNOTES

(1) Soda, T. and Miura, F. (eds.). Rojin Hakusho, (Tokyo: Sekibunsha, 1983), pp. 264.

(2) Ibid.

(3) In practice, some people fall between the cracks, e.g. unemployed divorced women. The revised Universal Pension Scheme instituted in April, 1986 attempts to rectify this situation by integrating the various pension plans into a consolidated system.

(4) Threshold levels vary by household composition. Annual income must not exceed $4,800 per person or $35,000 for a family of four.

(5) Analogous figures for other industrial societies are France, 5 percent; West Germany, 7 percent; and USA, 18 percent.

(6) Prefectures may lower the threshold age independently by subsidizing those aged below 70.

(7) Jinko Mondai Shingikai (1984).

(8) Ibid.

(9) Management and Coordination Agency, Elderly Affairs Bureau, Chunenso no Roshin Fuyo ni Kansuru Chosa, 1983. Survey of married persons aged 35-44 in rural (towns and villages), urban (cities with over 15,000 and less than 150,000 inhabitants) and metropolitan (Capital and Kinki districts) areas.

(10) Formerly the Prime Minister's Office.

(11) Management and Coordination Agency, Elderly Affairs Bureau, Roshin Fuyo ni Kansuru Chosa, 1974, Tokyo.
Management and Coordination Agency, Elderly Affairs Bureau, Chunenso no Roshin Fuyo ni Kansuru Chosa, 1974, 1983, Tokyo.
Management and Coordination Agency, Elderly Affairs Bureau, Katei Seikatsu ni okeru Rojin no Chii to Yakuwari ni Kansuru Chosa Kekka no Gaiyo, 1983, Tokyo.
Management and Coordination Agency, Elderly Affairs Bureau, Oya o Fuyosuru Tachiba ni aru Monokara Mita Rojin no Chii to Yakuwari, 1985, Tokyo.

Respondent categories for the 1974 surveys were: married children aged 30-49, and parents aged 60-74. Respondent categories for the 1983, 1985 surveys were: parents aged 60-74 residing in 3 or 4 generation households, and children of parents aged 60-74 residing in 3 or 4 generation households. Respondent categories for the 1974 and 1983 surveys were married persons aged 35-44.

(12) Elderly Affairs Bureau surveys of 1974, 1983 and 1985 divide respondents into residents of (i) top 11 major cities, (ii) cities with over 150,000 inhabitants, (iii) cities with less then 150,000 inhabitants and (iv) towns and villages.

(13) Rice, fruits (mandarins) and other root vegetables.

(14) See Hasegawa, A. (1986) for a historical analysis of social conditions leading to the kengyoka trend.

(15) Calculated from basic statistics obtained from the Town Administration of Nakai.

(16) Dore (1978).

(17) Maeda, D. (1983).

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AGING ISSUES, PROGRAMMES AND RESEARCH IN THAILAND

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The aging of the population is a relatively new phenomenon in Thailand. Both the numbers and percentage of the elderly (aged 60 years and over) stand today at a critical turning point for confronting the issues that must be addressed. In the developed countries, aging has been an accepted sphere of research and policy formulation for some time, whereas the developing countries have given it almost no attention. Little information on the needs, demands, and problems of elderly people in developing countries has been gathered. As in other developing countries, data and available documents concerning aging in Thailand are limited. However, this paper will attempt to present a current review of the following aspects:

I. Trends and the current situation of the aged
II. Issues relating to the aged
III. Existing programmes for the aged
IV. Assessment of existing programmes
V. Research on aging

I. Trends and current situation of the aged

Table 1 summarizes 1970 and 1980 data on the numbers and proportion of the Thai population in three broad age groups. It can be seen that the

Table 1 Population by broad age groups, 1970 and 1980

Age group	1970		1980	
	Number	Percent	Number	Percent
0-14	15,506,260	45.1	17,165,721	38.2
15-59	17,166,613	50.0	25,213,539	56.3
60+	1,681,024	4.9	2,445,280	5.5
Total	34,353,897	100.0	44,824,540	100.0

Note: Numbers are not adjusted for underenumeration.

Source: National Statistical Office, Population and Housing Census of Thailand, 1970, 1980 numbers and proportion of the aged have increased significantly. In 1970, 45.1 percent of the Thai population were under 15 years of age, 4.9 percent were 60 years and over, and 50.0 percent were of working or intermediate age, 15-59 years. By 1980 the proportion of young had declined to 38.2 percent, that of the aged had increased to 5.5 percent, and those of working age were 56.3 percent. Given the prospect for a further fertility decline in Thailand, it is clear that the future will witness continued aging of the Thai population. As shown in Table 2, under the medium fertility assumption, the population of Thailand is estimated at 52.6 millions in mid-1986. Of this number, 5.7 percent are aged 60 years and over and 35.9 percent are under 15 years of age. Through time, both the number and proportion of the population in each broad age group will change dramatically due to lower rates of fertility and mortality. The impact of the sharp decline in fertility since 1960 is reflected in the medium population projections, which show the number of children under 15 years of age starting to decrease in 1987. Meanwhile the number of working age adults and elderly will continue to increase. As a consequence the age distribution of the population will shift from that of a young population to a mature population. By the year 2000 the total population of Thailand is projected to be 64.3 million, with the proportion of elderly reaching 7.6 percent.

Table 2 Population projections by broad age groups, 1985-2000, medium fertility (in thousands)

Age	1986		1990		1995		2000	
group	Number	Percent	Number	Percent	Number	Percent	Number	Percent
0-14	18,896	35.9	18,804	33.4	18.353	30.3	17,655	27.4
15-59	30,775	58.4	34,115	60.5	38,075	62.9	41,876	65.0
60+	2,983	5.7	3,421	6.1	4,078	6.7	4,858	7.6
All Ages	52,654	100.0	56,340	100.0	60,506	100.0	64,389	100.0

Note: The medium fertility level assumes the total fertility rate at 3.46 in 1980-85, decreasing to 2.11 by 1995-2000, and declining further until reaching 1.60 in 2015-20 and remaining at that rate thereafter.

Source: National Economic and Social Development Board, Population Projections, for Thailand Whole Kingdom and Regions, 1980-2015, October 1985 (in Thai).

As has been mentioned, the growing number and percentage of the aged is not yet seen as a serious governmental problem in Thailand as far as the socioeconomic implications are concerned. However, the increase in the number and proportion of the elderly is expected to become more noticeable in the future as they create more of a burden for society through expanding demands for health and welfare services, especially for the poorest sector of the elderly whose families fail to support them. In addition, in Thailand, old people have enjoyed a privileged position based on respect, consideration, and status. But this is starting to change under the influence of modern trends, and the bases for privilege are now being questioned. It is therefore time to consider aging issues and to look for the best ways to solve problems (or if possible to avoid them.) As a preliminary step it is essential to clarify the current status of the issues, programmes, and research on aging in Thailand.

II. Issues relating to the aged

In identifying issues of social importance that are generated by growth in the numbers and proportion of older persons, it is useful to present in brief the characteristics of the aged population. Among factors that need to be considered are sex composition, marital status, urban-rural distribution, and literacy.

Table 3 shows the changing sex composition of the Thai population by broad age groups from 1960 to 1980. It may be seen that the sex ratio decreases as the age increases. At age 60 and over, elderly women outnumbered elderly men, and this pattern remained constant from 1960 to 1980. This implies that the problems of the elderly are more likely to involve elderly women and, therefore, that plans for future services should take this into account.

Table 3 Population by age and sex, 1960-1980[a]
(in thousands)

	1960				1980			
Age group	Total	M	F	Sex ratio[c]	Total	M	F	Sex ratio
0-14	11,320	5,712	5,607	102	17,166	8,758	8,408	104
15-59	13,684	6,823	6,823	101	25,214	12,455	12,759	98
60-64	474	229	245	93	854	411	443	93
65+	734	326	408	80	1,591	705	886	80
Total	26,212	13,128	13,083	100	44,825	22,329	22,496	99

[a] The original paper included data for 1970, but these were excluded because of space constraints. [Editors]

[b] Excludes priests and persons of unknown age

[c] Sex ratio $= \frac{M}{F} \times 100$

Source: National Statistical Office, Population and Housing Census of Thailand, 1960, 1970, 1980

Data from the 1980 census (Table 4) reveal the differences in marital status among older men and women due to the fact that women live longer than men. In the preparation of current official population projections the expectation of life at birth in 1980-1985 was estimated at 60.25 years for males and 66.25 years for females. The excess of elderly females is caused by higher age-specific death rates of the male population at most ages.

Table 4 Population aged 60 years and over by marital status and sex, 1980

	Male		Female	
	Number	Percent	Number	Percent
Single	16,516	1.5	27,605	2.1
Married	845,597	79.0	538,844	41.8
Divorced	22,146	2.1	37,122	2.9
Widowed	186,544	17.4	684,781	53.1
Total	1,070,803	100.0	1,288,352	100.0

Source: National Statistical Office, Population and Housing Census of Thailand, 1980.

Differences in mortality experience, together with the fact that older men are much more likely to remarry, and in doing so to marry younger women, leads to major differences in the percentages of men and women who are married and widowed.

Table 5 Total population and population aged 60 years and over by area of residence, 1970 and 1980 (in thousands)

	1970		
	Bangkok Metropolis	Other urban areas	Non-municipal areas
1970			
All ages	3,077	2,058	29,262
Aged 60+	141	128	1,417
Percent	4.6	6.2	4.8
1980			
All ages	4,963	2,963	37,192
Aged 60+	238	163	2,045
Percent	5.1	5.5	5.5

Source: National Statistical Office, Population and Housing Census of Thailand, 1970 and 1980.

Thai censuses define urban and rural areas as municipal and non-municipal areas respectively. This definition tends to understate the urban population. However, in terms of percentages the 1980 census shows little difference in the proportions 60 years and over in Bangkok Metropolis (5.1 percent), other urban (5.5 percent), and rural (5.5 percent) areas. The 1970 figures are included in Table 5, which also shows that the numerical increase of the aged is primarily a rural phenomenon. The percentage distribution of those 60 years and over by place of residence was:

	Bangkok Metropolis	Other urban areas	Non-municipal areas
1970	8.4	7.3	84.3
1980	9.7	6.7	83.6

The rapid expansion of educational facilities in recent years is reflected in the levels of literacy by age and sex (Table 6). The elderly have lower literacy rates than younger age groups, and those of elderly women are significantly lower than those of their male counterparts.

Table 6 Literacy rates by age group and sex, 1970 and 1980

Age group	1970 Total	1970 Male	1970 Female	1980 Total	1980 Male	1980 Female
10-39	91.3	93.9	88.7	95.9	96.9	94.9
40-59	64.4	80.8	48.2	82.3	88.9	75.9
60+	32.4	58.5	10.6	44.2	63.3	27.9
All 10+	81.8	88.9	74.9	89.5	93.1	86.1

Source: Napaporn Chayovan, "Overview of Demographic Trends" in The Thai Elderly Population: A Review of Literature and Existing Data. April 1985. Table 9.

Living arrangements

Living arrangements of the elderly are influenced by the structure of the family. More than any other institution, the family has provided the central focus of social life for older people in Thailand. In the past the predominant family structure was the extended family where more than two immediate generations live together. In the extended family, the elderly could always find useful activities to carry out, such as caring for grandchildren, cooking meals, and housekeeping, while active family members worked in the fields. The elders' experience and suggestions were required and highly valued.

As Thai society has become more urbanized, the structure of the family is changing from extended family to nuclear family (which consists of a husband and wife and their dependent children). Table 7 shows that 52.5 percent of household heads aged 60 years and over in 1980 were in extended families, as compared to 20.3 percent of household heads under 60 years; most of those under 60 years were household heads of nuclear families (76.1 percent).

Table 7 Percent distribution of households by household structure and age of household head, 1980

Household structure	Age of household head			
	Under 60		60 and over	
	number	percent	number	percent
Unrelated individuals	260,940	3.6	96,106	7.5
Nuclear family	5,430,374	76.1	509,576	40.0
Extended family*	1,446,713	20.3	668,824	52.5
Total	7,138,027	100.0	1,274,506	100.0

Note: *Including stem, joint and stem-joint family

Source: National Statistical Office, Population and Housing Census, 1980.

However, the data shown here do not cover the spouses of elderly household heads and those 60 years and over who live in families headed by non-elderly persons.

The change in family structure surely affects the role of the elderly in the families. The system of independent nuclear families may make life harder for the aged, for they may feel neglected or unable to live happily with their families. Both short- and long-term plans are needed to cope with this problem.

Sources of financial support for the elderly

Three major sources of financial support for the elderly in Thailand are family support, employment, and individual savings and assets.

1. Family support

The family normally takes full responsibility for its aged members. Within the family it is usually shared among its members according to age and abilities. In Thai culture, one of the prime tasks placed on children is that of taking care of parents in their old age. Studies have found that the children are major sources of income for the elderly in Thailand (Kamnualsilpa, 1980 and Xuto, 1982), but no data on the form and adequacy of support by children are available.

As mentioned earlier, Thailand is gradually moving from an agricultural to an industrialized or urbanized society. The role of the family in financial support for the oldsters may be diversified by the pressure of modern life, and it has been suggested that the role of the family to provide assistance both in-kind and cash to the elderly should be emphasized and encouraged.

2. Employment

The mandatory retirement age in Thailand is 60 years. This does not mean that when all persons reach age 60 they cease or disengage from economic activities. Only those who work in government, state, or private enterprises officially stop working at that age. Whether or not these retirees will continue to work depends on individual willingness and economic necessity. However, Thailand also provides opportunities for retirement before or after the normal age; for example, government employees can take early retirement after age 50 or after more than 25 years of service.

Those employees who retire from government receive benefits in the form of a life-time pension or a lump sum payment. The amount of lump sum payment is calculated by multiplying the final month's salary by the number of years in service. The retirement benefits for state enterprise employees are also determined in the same manner except that there is no life pension. Only large private enterprises provide old age benefits to their employees in the form of provident funds which require contributions from both employers and employees. Only recently has the government begun to promote the concept of pension plans. The Royal Decree on provident funds was issued on September 1983 to be effective on January 1, 1984.

It should be kept in mind that only a small proportion of the Thai population works with government, state, and private enterprises. Unfortunately, no data are available on the number of retirees who receive some form of benefits from state or private enterprises. Although there are small numbers of the elderly who live upon the benefits derived from their work in the past, little is known about the extent to which the amounts received keep pace with inflation. Some of them undoubtedly have economic difficulties.

The fact that Thailand is an agricultural country means that 75 to 80 percent of the Thai population reside in rural areas, and many engage in agricultural work. Most of them work on farmlands as long as they are physically able and have no definite retirement age. The 1980 census classified persons aged 60 years and over by type of economic activity (Table 8). Economically active persons are those who are employers, own-account workers, employees and unpaid family workers. Non-economically active persons are those who are unable to work -- housewives, students, priests, etc. About

37 percent of the population aged 60 years and over were economically active, and the percentage of economically active population in nonmunicipal areas was much higher than in municipal areas. This might be due to the fact that unpaid agricultural workers are counted as economically active, as are unpaid family workers residing in nonmunicipal areas. It should also be noted that the percentage of economically active females was much lower than that of males in every area of residence. With the shift to more nuclear families and the changing concept of family responsibility for aging parents and relatives, it may be anticipated that any increase in the number of non- economically active persons in this age group implies a greater burden on society in the future.

Table 8 Population aged 60 years and over by type of economic activity, area of residence and sex, 1980 (in thousands).

Area and sex	Total		Economically active		Noneconomically active*		Unknown labor force status	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Whole Kingdom	2,444	100	915	37.4	1,480	60.7	49	2.0
Male	1,116	100	556	49.8	541	48.5	19	1.7
Female	1,328	100	359	27.0	939	70.7	30	2.3
Municipal areas	400	100	106	26.5	283	70.7	11	2.8
Male	177	100	68	38.4	104	58.8	5	2.8
Female	223	100	38	17.0	179	80.3	6	2.7
Nonmunicipal areas	2,044	100	809	39.6	1,197	58.6	38	1.8
Male	939	100	488	51.9	436	46.5	15	1.6
Female	1,105	100	322	29.1	760	68.8	23	2.0

Note: *Includes those who were unable to work, housewives, students, priests, other, and unknown.

Source: National Statistical Office, Population and Housing Census, 1980, Table 22

3. Individual savings and assets

Many elderly survive in their last stage of life upon savings and financial assets which were accumulated during their working careers. It was found that 25 percent of a survey sample specified individual savings and assets as their source of income (Xuto, 1982). However, no other information is available on this aspect.

It should be noted that there are many old people who have no financial support at all. They have no families, no savings and assets, and no source of benefits. Some of them rely on neighbors, community temples, homes for the aged, etc., but there is no clear evidence of their number.

In sum, among three main sources of support for the elderly, the family still plays an important part, and its role should be emphasized in terms of both financial and psychological support.

Health issues of the elderly

As mentioned earlier, the success in reducing fertility and mortality has increased the proportion of the aged in the total population. As life expectancy has increased, the changes in physiological and mental functions that appear to be correlated with human aging have become more evident. (Petri, 1982).

However, the data on health of the elderly and related issues are very scattered and limited. Registration data on mortality and information on causes of death are very poor. Research to date is generally based on small samples or on case studies, so that definite conclusions about health issues can not be drawn (Chayovan, 1985).

As for the elderly, the basic problem many face is poor health for which they need special treatment. From the study on The Epidemiology of Disability and Aging in Thailand (Siriphanich, 1982) it had been estimated that about 42 percent of the elderly population, or 38 percent of the male and 46 percent of the female elderly population, are in poor health. Those living in Bangkok appear to have better health than those in other provinces.

The health surveys of the National Statistical Office indicate that the morbidity level of the elderly is higher than that of the general population (Table 9). In 1977, the percent of persons reported ill was 14.6 percent for the elderly and 9.3 percent for the whole population. In 1981, the data showed that the percentage decreased to 8.3 for all ages, whereas the percentage of the elderly showed little change at 13.8 percent. It is also evident that the duration of illness is longer for persons 60 years and over than for younger ages.

The percentage of persons hospitalized is also higher for the elderly than for the total population. In 1981, more than half of the aged who were ill or injured were hospitalized.

Although data on morbidity are very limited, 1980 statistics of the Ministry of Public Health show that diseases common among the elderly who were patients at various hospitals included senility, hypertension, cataracts, etc. Comparable mortality data in 1980 show the four leading causes of death of persons aged 60 years and over were heart failure, pulmonary tuberculosis, malignant neoplasms, and cerebrovascular disease. (Ministry of Public Health.)

Table 9 Health status of the population, 1977 and 1981

Health status	1977		1981	
	60 and over	All ages	60 and over	All ages
Percent of persons reported ill	14.6	9.3	13.8	8.3
Percent of persons reported ill more than 4 weeks	23.3	7.4	22.8	7.5
Percent of persons reported ill or injured	15.7	10.4	15.5	10.2
Percent of ill or injured persons hospitalized	43.2	34.4	52.8	49.4

Source: National Statistical Office, Health and Welfare Survey, 1977 and 1981.

Available information demonstrates the need for special health care for the elderly. This should include low cost or free medical care when necessary in providing both preventive and curative services.

III. Existing programmes for the aged

In all parts of Thailand, regardless of the gender of the children nearest at hand, older people are usually surrounded by some of their children or relatives who assume such responsibility for them as they may require (Cowgill, 1972). This means that the elderly tend to receive much of the economic and social support (such as personal care, entertainment, etc.) they need from spouses, children, or relatives. However, some may find their family ties are tenuous or their relatives are no longer available to provide support. Even when they are fortunate enough to live in family situations, the ability of the family to meet the needs of the aging individuals may be restricted. When there is no one to help, the older persons must turn to the community or government.

This leads to the question: what has been done in Thailand to assist the aged? Beginning with the First National Development Plan in 1961 and including the present Fifth Plan (1982-1986), the welfare and health of the aged have been emphasized, especially for the institutionalized needy aging population. Specifically the Fifth Plan calls for the family role and non-institutional care in the form of social service centers to be strengthened in order to provide needed care.

The existing programmes for the aged can be classified into government and nongovernment programmes.

Government programmes

Most of the welfare programmes for the aged are the responsibility of the Department of Public Welfare, Ministry of Interior, with some supportive programmes carried out by the Department of Medical Services, Ministry of Public Health and the Department of Non-formal Education, Ministry of Education. It is appropriate to classify these by the types of services which have been offered up to the present. Five types of government services are discussed in this section.

1. Residential care[1]

The Department of Public Welfare has operated homes for the aged since 1953 with the main purpose of rendering residential care to needy persons who meet the requirements of being over 60 years of age for females and over 65 years for males, who are homeless, have no relatives to live with or are not able to live happily with their own families. The services that have been provided in the homes for the aged are lodging and food, clothing, personal living effects, religious rites, medical services, physical exercise, and therapeutic activities for physical rehabilitation, recreational activities, traditional festival activities, social work services, and traditional funeral services. Hobbies and vocational therapeutic activities are arranged, such as embroidery, handicrafts, etc.

The Department maintains four types of facilities:

1. Free-of-charge: for elderly persons with no means of support. This programme is available in all of the homes for the aged.

2. Hostel-type: for the aged who can afford a monthly charge for living quarters at the rate of 550 baht for a single room and 1,060 baht for a double room. This type of service is made available only in Bangkae Home.

3. Private house: for the elderly persons who are financially able to own houses built in the compound of the institution and conforming to the house designs of the Department. These houses will automatically become the property of the Department of Public Welfare after the death of the owners and their spouses. This type of service is made available only in Bangkae Home.

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[1] Information provided by the Department of Public Welfare, Ministry of Interior.

4. Holiday home: two holiday homes have initially been build at the Eastern Home for the Aged at Bang Lamung with the cooperation of the Chon Buri Provincial Authority. They provide opportunities for older persons to enjoy relaxation and a vacation at the seaside resort.

During 1985 two new homes for the aged were opened in Mahasarakham (in the Northeast) and Chumporn (in the South). Prior to that there were eight homes for the aged in Thailand. The number of persons being served as of December, 1984, are as follows:

	Number of residents	
1. Bangkae Home for the Aged in Bangkok Metropolis	366	
2. Eastern Home for the Aged at Bang Lamung in Chonburi Province .	173	
3. Thampakorn Home for the Aged at Poh Klang in Nakorn Ratchasima Province	168	(Nov.)
4. Thampakorn Home for the Aged at Watmoung in Nakorn Ratchasima Province	138	
5. Thampakorn Home for the Aged in Chiengmai Province	295	
6. Taksin Home for the Aged in Yala Province	114	
7. Kao Bo Kaew Home for the Aged in Nakorn Sawan Province. . . .	57	
8. Chantaburi Home for the Aged in Chantaburi Province	27	(Oct.)
Total	1,338	

2. Elderly social service centers.

In addition to residential care for needy elderly persons, the Department of Public Welfare established the first Elderly Social Service Center in August 1979 in the compound of the Bangkae Home for the Aged. A second is the Poh Klang Elderly Social Service Center, Nakorn Ratchasima Province. The other Homes for the Aged also provide services to both males and females aged 60 years and over who live in nearby areas and to the heads of households who face the problems of having elderly as their responsibility. Services provided in these centers are therapeutic and rehabilitative care, recreation, day care, family assistance,and counselling services -- including an opportunity for social and community participation for non-residents of the homes for the aged. Parallel to the service centers, home visits are made in the surrounding communities in order to give advice and primary medical treatment to elderly persons. The elderly social service centers have aided in promoting health conditions for the elderly in general and preventing and rehabilitating infirmity.

The government's plan is to establish more social service centers for the aging population in various provincial areas in the future. The activities of these centers should enable the elderly to remain with and be taken care of by their families, thus reducing the need for additional homes for the aged.

3. Social Center for the Aged.

In order to expand the coverage of services for the aged, the Department of Social Service has recently set up a social center for the aged at Dindang in Bangkok. This center focuses on educating the aged and providing social activities for them. The center also serves as a temporary home for the aged in case of urgent need.

4. Non-formal education programme.

It is well known that education plays a very important role in keeping elderly persons alert and aware of the outside world and helps them to continue to be physically and mentally active. With this in mind, non- formal education projects have been initiated, including the formation of vocational interest groups, education through mass media, village reading centers, audio-visual education, etc., through the Department of Non-formal Education, Ministry of Education. Aging persons are encouraged to participate in these programmes.

However, whether these provisions for educating the aged are appropriate to and meet their needs is uncertain. Without any information about the extent of coverage and the requirements of the aged, it is not possible to evaluate the programme and its effectiveness.

In addition, a health promotion programme has been introduced through the Sports Organization of Thailand. The activities under this programme include dissemination of knowledge relating to exercise for the elderly, conducting research on physical fitness of the aged, and organizing tests of their physical fitness. Information on the number and characteristics of the aged who have access to these services is lacking.

5. Health and welfare facilities

In view of the problems facing the aged due to deterioration of health, the Thai Government included a programme for prevention and cure of illness and provision of therapy for the aged as a part of the Fourth Five Year Plan (1977-1981). It was recognized that the demand for health care services increases with the growing number of aged, and the Ministry of Public Health set up in 1979 the Advisory Committee for Planning Health Care Programmes for Aging. Several programmes on health care for the elderly are augmented in general hospitals throughout the country. Up to now, many hospitals have operated geriatric clinics, and the rest are encouraged to render special care for the elderly. Moreover, the Ministry of Public Health has integrated preventive and curative services for the aged into the primary health care programme.

Apart from these, in 1980 a Special Geriatric Health Service Programme was initiated. Its main activities include training of personnel in health care for the elderly and widening public knowledge in this field through the mass media. One year later a National Committee on Coordination of Health Care for the Elderly was formed as a planning and coordinating body.

In addition, the Thai Government set up the National Committee for the Elderly in 1982. The committee is chaired by the Minister of Interior and comprises representatives of the public and private sectors whose responsibilities are related to development and humanitarian concerns on aging. This committee is entrusted with the responsibilities of policy formulation and planning for all aspects of activities on aging. Seven sub-committees[2] were appointed by the National Committee in 1982.

6. Information dissemination

The Ministry of Public Health has carried out various programmes to disseminate information to the aged through radio programmes, television programmes, and newspapers. The contents of the audio-visual programmes focus on physical and mental health of the aged, disease prevention, etc.

7. National Aging Day

In compliance with a U.N. Resolution, the Cabinet approved April 13th as National Aging Day. On that day, each province is supposed to arrange activities for the aged such as paying respect to the aged, physical examinations, providing consultants on laws, exercise, visits to the elderly in the homes for the aged, setting up exhibitions, etc. These are considered one-day service activities.

Non-government programmes

It is well recognized that active participation of the private sector is an important element in the achievement of overall development. In the field of aging, as in other welfare and development fields, the private sector has played an active role through clubs, foundations and associations. There are quite a number that offer services for the aged through various kinds of activities. Unfortunately, there are no complete records of the organizations involved. These private organizations are operated on a voluntary basis in the form of foundations or clubs.

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[2] The sub-committees are: Health Care, Social Welfare, Culture, Research and Long-Term Planning, Public Relations, Foreign Relations, and Fund-Raising.

1. Foundations for the aged

Various foundations offer care for elderly persons. The most widely known is the Wai Wattana Nivas Foundation which provides housing and services for homeless males over 60 years old. At present there are 450 elderly persons under the responsibility of this foundation; most of them are Chinese, and almost half are in poor health. The welfare services of this foundation include housing and food, physical and mental rehabilitation, and vocational therapy. Other foundations which provide similar services are the Taranukraw Foundation and the St. Louis Foundation. Their main activities focus on humanitarian and developmental aspects of the aging.

Finally, some private hospitals in Bangkok and the provinces provide free health care for the aged who are poverty-stricken.

2. Senior citizen clubs

Thirty-six Senior Citizen Clubs have been established in 36 provinces all over the country. Each club has its own activities, primarily concerned with health, religious and recreational services. There are also associations formed by elderly persons retired from the same organization or the same profession, such as the Retired Interior Officials Association, Retired Militarian Association, etc. These associations carry out activities similar to Senior Citizen Clubs.

In addition to the above organizations, welfare services are found in the field of private business. Some private firms have retirement and pension policies, while others do not. The range and coverage of services vary from one organization to another. The personnel of state enterprises and large-scale private firms are entitled to receive welfare services, while those elderly who were self-employed or worked with small-scale establishments usually have to rely on their families.

IV. Assessment of existing programmes

The literature reviewed in the earlier sections suggests that virtually all aspects of social, financial and health services provided for the aged in this country are limited in coverage. Lacking a social security system, many Thais do not have sufficient income to cover expenses when they get old. Those who have no one to care for them need assistance from the government, but with a limited budget, the expansion of welfare services for the aged is slow. The inadequacy of the current level of services for the aged and the insufficient number of services are evident. Some specific aspects may be cited:

1. The number of older persons cared for in the government homes for the aged over the past thirty years is very small and has remained virtually unchanged over the past several years (see Table 10).

Table 10 Number of residents in Government Homes for the Aged, 1953-1982, Thailand

Year	No. of residents	Year	No. of residents
1953	86	1968	994
1954	198	1969	1,311
1955	300	1970	1,140
1956	360	1971	1,403
1957	400	1972	1,148
1958	476	1973	1,028
1959	537	1974	1,019
1960	640	1975	1,074
1961	520	1976	1,101
1962	525	1977	1,199
1963	585	1978	1,305
1964	635	1979	1,295
1965	787	1980	1,327
1966	729	1981	1,337
1967	894	1982	1,328

Source: Welfare Assistance Division, Department of Public Welfare, Ministry of Interior

These people represent only a very small proportion of the annual increase in the number of those entering the old age group each year. With budget constraints the provision of welfare services has not adequately met the demand. Thus, in 1982 the total number of persons aged 60 years and over was estimated at 2,490,000, while the government's eight homes for the aged in 1984 could provide for only 1,338 persons. The studies cited earlier suggest that the need for such facilities is much greater.

It may be noted that one criterion for acceptance to a home for the aged is a minimum age of 65 years for men and 60 years for women. This criterion contradicts the demographic fact that Thai females, on the average, live 4 years longer than males. In view of this, it is suggested that the minimum age required for men should be the same as for women.

2. There is a large gap between urban and rural areas in provision of services. Most of the homes and centers for the aged are located in urban areas, while the majority of the elderly people live in rural areas. Questions to be explored include: Is it possible to expand the services? What is the level of the demand? What are the specific needs of the elderly from various backgrounds?

3. The role of the aged may be as "receivers" or "givers." Their active participation can have positive effects on the development of society. Questions here include: How can they participate in society and in what ways? What should be their roles?

4. The services provided by the government and the private sector have focussed mainly on physical health care for the elderly. Needed are not only appropriate preventive and curative care and rehabilitative health services but also strengthening and maintaining the social values associated with care of the aged by their relatives. It has been noted that many old people have diminishing financial resources. If they have maintained independent life styles during earlier years, many may find themselves abandoned by negligent relatives and suffering increasingly from both health and financial problems. The fact that there is no national provision for ensuring income to the aged is probably one of the reasons why labor force participation of aged men in Thailand is comparatively high. Statistics that define the scope of such problems are lacking.

For the time being, the disproportion between the expansion of welfare services and growth in the number of aging in Thailand is not viewed as a serious problem. This may be due to the fact that the majority of Thai people live in rural areas where long-followed customary ways of life tend to predominate. Traditionally the older members are well integrated and continue to play somewhat active roles in the economic and social life of their families. From generation to generation, the young are taught from a very early age to respect the old. Thais are taught both gestures and rituals that are appropriate to persons of different ages. The respect for one's elders is maintained throughout one's life. Within the family, the welfare of each individual member is always the primary concern of the family. The younger generation respects and supports the elderly, providing for their physical and psychological needs. On the other hand, the elders serve as the cornerstone of the family. The traditional Thai respect for the elders and for old age is considered an accurate gauge of wisdom and virtue. However, Thai society is undergoing rapid change, and it is inevitable that some of the old beliefs and old customs are becoming less important. The young are not as likely to adhere to traditional Thai forms. But the extent to which the elderly continue to be respected and cared for by the young needs further study.

As age advances many people become more religious. In old age both men and women turn increasingly to religious activities, and these (plus the custom of paying respect to the aged) appear to be two of the mechanisms that, especially in rural areas, have made it possible for Thai elderly persons to enjoy a privileged position involving special consideration and status. However, this situation is changing. With the growth of the population aged 60 years and over, economic and social changes within the family make care of the elderly more difficult at the same time that the status of elders in the family and community is being eroded. As a result, the demand for services from the government tends to increase at a faster rate than the growth of the aged population. The rising incidence of divorce, the high volume of migration of young adults from rural to urban areas and the recent increase in female labor force participation, all tend to add to the probability that older persons in the future will have less opportunity for family support than in present and previous generations.

V. Research on aging

The major difficulty facing those who are interested in this field is the unavailability of data on the Thai elderly. Empirical studies are limited. Old age represents only one end of the age spectrum, and in the past demographic research in Thailand has focussed on fertility and women of reproductive age. Not many studies have concentrated on the elderly, for most research was conducted specifically to gather information about reproductive behavior in order to find the way to lower fertility. However, data on the Thai elderly can be obtained from two main sources, namely censuses and sample surveys.

Census data are obviously not collected with aging research specifically in mind, but by examining the data for people aged 60 years and over it is possible to develop a profile of the characteristics of the elderly in the whole country or in specific geographic regions (North, Northeastern, Central and South). A Population and Housing Census of Thailand has been conducted every 10 years and that includes a wide range of socio-demographic characteristics such as education, marital status, family type, etc. Therefore, examining the data for different census dates provides a good picture of change over time. The use of census data gives general information about the aged; for in depth information more intensive and specialized data collection such as sample survey research should be utilized.

In considering sample survey research to gather information on the elderly in Thailand, caution is needed. Research on the elderly is generally based on small samples or on case studies. The two surveys most often referred to are not nationally representative. The study on "Thai Old People" by Nisa Xuto included 1,000 respondents from some provinces in each region. For the study of Peerasit Kamnuansilpa and others, the 825 respondents were drawn from four provinces, namely Bangkok, Phuket, Songkla and Pang-Nga. As a consequence of the unavailability of data from a large scale survey, definite conclusions or generalizations about several issues concerning the elderly cannot be made.

In addition, in dealing with research findings on the elderly in Thailand one must confront not only the small size of the sample but also the nature of the sample as well. Most of the research samples on the elderly are drawn from the institutionalized elderly who represent only a small fraction of all elderly in Thailand. What is needed is more information about the non-institutionalized elderly.

Apart from the problem of the samples, research has been limited to a small number of research topics. Most surveys have dealt with general health service for the elderly, but even here there is very little information on the health status and on types of ill-health and resulting problems facing the aged sick and incapacitated. There is no information on several aspects such as the general areas of physical capacity of the aged, the role of old people in the family, employment and retirement among the elderly, the economic situation of the aged, the role of the family in taking care of the aged, etc. Also needed is research on the attitudes of the old and the young that will make it possible to assess differences in attitudes and behavior among older people and between older and younger people (Weeks, 1984).

Currently under way is a project that will shed some light on the "Socio-Economic Consequences of the Aging of the Population." This project is being implemented in the five ASEAN countries of Indonesia, Malaysia, the Philippines, Singapore, and Thailand. Singapore is the lead country. Scheduled to run for four years from mid 1984 to 1988, the project aims to provide early signals to policy makers and planners of the potential problems which may emerge in the process of demographic transition from young dependency to old dependency.

This project seeks to study the consequences of the increasing number of older people in the population, with particular reference to the socio-economic impact in each country. Specifically, the objectives are to:

1. Determine the pattern in age structure of the population and to make projections into the future;

2. Ascertain the implications of the aging of populations in terms of labor force, employment, health, and other social needs;

3. Identify the current problems facing the aged living in different environmental settings, both in urban or rural areas;

4. Review and evaluate existing policies and programmes on employment, social security and other economic support systems, recreational and health care for the elderly (in the context of general development of the country); and

5. Create greater awareness among policy makers and planners of demographic trends and the consequences of the aging of population and to influence administrations in the formulation of appropriate population-responsive policies.

Thailand's participation in this project includes a number of activities, some completed and others on schedule. During 1985, a Thai country report (both in Thai and English) was published as a monograph titled The Thai Elderly Population: A Review of Literature and Existing Data. Also, an annotated bibliography was prepared, drawn from a review of the literature used in the preparation of the project.

Data are being collected through a national survey, the first national survey of the aging population in Thailand. Selection of the sample has been made carefully with sample areas distributed in 87 villages and 48 blocks in 57 districts of 26 provinces. This sample will cover approximately 15,000 households and yield about 3,000 respondents aged 60 years and over and 1,500 aged 15-44 years.

This survey will utilize four questionnaires, the first directed to persons aged 60 years and over and the second to younger people aged 15-44 years. The proportion is 2 to 1. The third and fourth questionnaires were drafted to obtain data on the communities and health outlets. The actual fieldwork was carried out during March-May 1986. The fieldwork includes the collection of data on the aged, adults, the communities and the health outlets. In addition, data on institutionalized elderly is being collected through a group-interview approach.

It is anticipated that the findings from this project will provide information necessary for formulating future policy options and programmes. However, much more research will be needed in this field to deal with the effect of household and family structure on living arrangement and the care of the elderly, and on problems of housing, urbanization, etc. In Thailand it is time to turn attention to the elderly as a subject of serious study rather than of benign neglect.

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PART IV

THE ROLE OF GOVERNMENT PROGRAMS

THE "CRISIS" OF WESTERN WELFARE STATES: IMPLICATIONS FOR DEVELOPING COUNTRIES

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This conference brings together scholars from developing and industrialized countries to share ideas and knowledge about social and economic supports for people when they grow old. We come together at a time when, in both types of countries, there is a definite lack of enthusiasm among many national leaders to confront the issues related to supporting an aged population.

Aging issues have not been a major concern of leaders in developing nations of the world for three rather obvious reasons. First, the aged are a relatively small proportion of the total population of such nations. Second, governmental development priorities encourage expenditures that invest in the longterm productive potential of the young, rather than expenditures on those close to death. And, third, preindustrial societies are predominately rural societies, where the economic and political position of older persons relative to younger persons is generally strong. Where families by both structure and necessity are supportive of the needs in old aged. And where older people are able to remain economically productive for a greater portion of their lifetime.

In industrialized countries, social security -- the largest and, until now, most exemplary program in what has become known as the "welfare state" -- is the focus of widespread criticism. Plagued by slow and sometimes negative economic growth over the past decades, these nations are increasingly questioning the growing governmental costs of social security and the equity of the benefits provided.

But despite the hostility and questioning of development planners, the conservative intelligentsia, and many political leaders, I want to argue that programs to support the aged are "alive and well" in most countries. In the West, "despite the political rhetoric of rollback, the attack on social policies has been largely blunted in most countries. In many, expenditures on social programs have continued to rise; in others, the programs where cuts would have been necessary if conservative administrations were to effect any significant inroads into government spending -- such as social security pensions in the USA -- have been broadly protected."[*] In developing countries, as exemplified by the response at the UN World Assembly on Aging, it is increasingly recognized that the national response to aging cannot wait till some future year but must start now.

While our nations have different histories, have different economic and political systems, and are at different stages of development -- it is important to emphasize the commonality that brings us together. It is a commonality that cuts across nations, across time, and across stages of development. The same realities of aged support that confronted Western nations of the world when they created the so-called "welfare states" confront these same nations today. Perhaps more significant is the fact that they now also confront most developing countries, resulting in rapidly emerging issues to be addressed by them in the years to come.

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[*] Rudolf Klein and M. O'Higgins, "Defusing the Crisis of the Welfare State." Paper presented at the Symposium on Social Security, Yale University (November 8-9, 1985), mimeo.

What are these realities that will not go away? Allow me to briefly list them.

First, old-age brings with it a rising incidence of long-term employment problems arising out of job and skill obsolescence, disability, ill-health, and age discrimination. This declining ability to work results in declining income. Historically, as a result of this reality, the aged without property have been economically disadvantaged. The result has been very high rates of poverty. And given their employment problems, the aged in many countries were labeled as "the deserving poor" -- that is, poor people who deserved the help of others. They received help from their children, charities, employers, and (most recently) from government social security programs.

A second problem is caused by the death of individuals. Since the beginning, men and women have joined together in marriage. They do this not just to have children but as a way of establishing an efficient and viable economic unit. Death, and the resulting widowhood, disrupts this arrangement and often (very often) causes serious economic problems for the survivor. Even today in the United States, where we have come close to eliminating poverty among the aged, significant numbers of widowed women remain poverty stricken. Without doubt, this represents the biggest economic problem of aging in the United Stated today. However, I use the American situation only as an example. The issue of death and widowhood is one that confronts all nations.

A third problem is the economic changes and disruptions that threaten economic preparation by individuals and families for old age. Recession, shifts in demand, relocation of industries, disruptions from international competition, bankruptcy of companies, or war occur in all countries. These economic and political events, outside the control of any one family, can destroy a family's best economical planning. Yet such events occur constantly and occur in all nations -- resulting in disruptions on the job, in the factory, in local communities, in the nation as a whole, and among nations of the world. The result is uncertainty and fluctuations in employment, income, and saving over the lifetime of individuals.

One economic disruption is so important and unique that it deserves a category all to itself. A fourth problem is inflation. At its worse, inflation can wipe out a lifetime of financial preparation for old age or suddenly transform an adequate retirement income into one providing a poverty existence. At a minimum, the threat of inflation creates tremendous insecurity, promotes inequity, and creates significant disincentives for saving in many forms.

These then are the formidable problems confronting any society at any time, problems which make economic support in old age such a challenging and complex issue. With the absence of other institutions, such as in the typical agrarian society, the family is forced to cope with these problems. And in every society the families have done well -- most of the time.

With industrialization, however, comes separation from the land, rapid technological change, economic business cycles, a speed-up of internal migration, a mushrooming of economic interdependence, and urbanization. Many of the papers presented at this conference mention the impact of these changes on the family and the aged.

Industrialization and accompanying economic growth is a two-edged sword: on the one hand there is a rising standard of living; on the other hand there is uncertainty and disruption of life everywhere.

The welfare state in Western countries was a reaction to the chaos and insecurity generated in developing nations undergoing rapid changes in population, in the size of cities, and in their economic structures. It was a reaction to the growing economic interdependence confronting individuals.

Thus, the modern welfare state is a way of protecting people not only from the old, traditional uncertainties but also from the insecurity generated by the new ways of production. It was a reaction to the economic threats facing individuals of an industrialized society and to the economically efficient, but often personally destructive, market mechanisms that play such an important role in the growth process.

With industrialization, retirement as an institution becomes a possibility and, in fact, a widespread reality. Moreover, in most countries retirement becomes a necessity of macro-economic policies -- policies seeking to balance the labor force structure with the changing imperatives of economic growth and its accompanying economic cycles.

But if retirement becomes possible with industrialization and growth, economic planning for retirement by individuals and families becomes less and less possible. The welfare state did not seek, however, to completely replace planning by individuals and families. Rather, it sought to provide minimum security to all individuals -- what has been called in the United States, "a floor of protection."

The modern welfare state is a way of protecting people from the basic uncertainties of life in a dignified manner. In his paper for this conference, Professor John Myles develops this point in some detail, so I will not expand upon it here.

The current "crisis of the welfare state" that is being talked about arises not from a crisis in the conception of this approach -- i.e., changing times making the original ideas inappropriate. Rather it is a crisis in financing arising from an unexpected decline in available public revenues. The source of this financial crisis is obvious; slow growth from a world-wide recession and growing military spending have put financial strains on governments around the world. Our ability in the West to carry out the traditional programs of government, including support for the aged, depends on our ability to deal with economic stagnation and the "arms race."

We cannot at this conference deal with these two global and essentially political issues. Rather our task is to exchange information and knowledge about various approaches to providing adequate economic and social support to the aged in our various countries. What I have tried to do, therefore, is to emphasize the commonality of problems among countries at different stages of industrialization and to argue that the so-called crisis of the welfare state does not mean we cannot learn from the experience of each country.

What have we learned from the western experience with social security? I would like to close by listing some fundamental propositions related to social security (the key program of the welfare state) that seem to have stood the test of time:

1. Only governments can ultimately secure the benefits promised in old age -- given the economic vicissitudes of regional and industrial shifts, recessions, inflation, and the extraordinary drains on society from military expenditures and national defense policies.

2. It is both efficient and more secure to build and rely heavily on collective mechanisms for old-age support. Using the "insurance principle" which takes advantage of the statistical laws of large numbers, we are simultaneously able to keep down the costs of providing for old-age while raising the amount of security provided to people.

3. While families, parents, and children help each other over the life-cycle in many ways and at all stages of economic development, there is a preference in all countries for economic independence between parents and children which extends into old age.

4. Economic support in old age should be provided in ways that emphasize and protect the dignity of individuals. That is one major reason why contributory social insurance programs have generally replaced demeaning "means-tested" programs in the West.

5. And, finally, there is a need to develop mechanisms that take into account both the short-sightedness (the myopia) that most people will readily admit to in their financial planning and the desire of many individuals to delegate retirement planning to experts -- given the complexity of the task and given the "opportunity costs" involved with the use of their time.

In my opinion, these are the key propositions that have guided and influenced the debate about old-age support policies in many countries of the world. It is my judgement that the validity of these propositions has not changed much over time. They are still very relevant today and offer guidance to industrializing countries of the Third World as they confront the new realities of their aging populations.

SOCIAL SECURITY AND FAMILY SIZE: A REVIEW OF THE LITERATURE

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I. Introduction

Even in traditional societies, the decisions couples made about the number of children they would bear were influenced by the interest of the larger community in population size and growth. This interest was conveyed, sometimes in subtle but effective ways, to prospective parents. Take for example the apparently innocent fairy tales told to children throughout Western Europe and North America. One old couple faced with the sorrow and loneliness of being childless is overjoyed by the birth of "Tom Thumb," whose cleverness, despite his small size, brings them happiness and fortune. Another elderly widow finds "Thumbelina," who soon disappears from her house through various misfortunes but has meanwhile enriched the widow's life. The royal parents of Briar Rose (Sleeping Beauty) and Snow White long for a child, and happiness is finally theirs with the birth of daughters, although in the first case the infant provokes the wrath of an evil fairy and in the second the mother dies after child birth.

In these and similar stories the lesson is that children bring tremendous joy even if the parents' lives are disrupted or terminated by the child's arrival. The emotional benefits of a child far outweigh the high material costs. It is likely that one of the purposes of these traditional tales was to encourage childbearing by emphasizing that while costs may be high, they are outweighed by the intangible benefits both in the short-term and in the parents' later years.

These stories demonstrate the classic dilemma faced by all parents in societies where conception can be regulated: How does one weigh the measurable and the intangible rewards of children against their costs in deciding whether to have a child? How this weighing is done is of growing interest to governments throughout the world as they seek ways to bring the private ideals about family size into accord with the economic optimum. For guidance on this issue policy makers turn to the empirical literature on family-size decisions. While the published research on fertility decisions of couples has been helpful in articulating factors that influence family size, it has been less successful in consistently estimating their strength or sometimes even the direction of that influence (Mueller and Short, 1983; Pullum, 1983; United Nations, 1973).

Because a comprehensive review of the published research on families' decisions about childbearing is beyond the scope of this paper, I review only the literature that focuses on the relationship between parents' expectations about old-age income needs and their childbearing choices. In the next section I briefly review the argument for government involvement in issues of family size. Next the cost-benefit approach to decisions which underlies most of the empirical research on the relationship between old-age income uncertainty and family size is described. In the fourth section I discuss this literature. In the last section I summarize the conclusions that can be drawn from this literature about the probable effect of government-sponsored social security (or pension) programs on fertility.

II. Rationale for Government Involvement in Fertility Decisions

Modern governments are not unique in their intrusion into what is ultimately an extremely personal decision made by parents about the size of their family (Eldridge, 1968; Glass, 1965). What is new is the emphasis in the last half of the twentieth century on the virtues of small families and the fostering by the state of conditions that encourage participation by men and women in activities that compete with childbearing and child rearing (Day, 1985). Different as well is the expressed urgency about the attainment of sharply lower birthrates, leading to the sometimes desperate search for policies that would alter fertility decisions in the short run (Petersen, 1981). Because a change in fertility norms through the reeducation and socialization of children (e.g., by changing the tone of popular childhood stories) is a slow process, more immediate fertility declines are likely to require government-sponsored programs targeted at parents who are now making choices about the number of children they will bear.

The legitimacy of the state's role in influencing fertility behavior derives from the observed relationship between rapid population growth and slow rates of economic development in the less-developed countries (Coale and Hoover, 1958; Stolnitz, 1981; United Nations, 1973). This depressing effect on economic development occurs because the consumption needs of a rapidly growing population (and large households) frustrate the ability of the public sector (and families) to provide funds over current consumption needs for investment purposes. Growth in total national income is offset on both a national and family scale by population gains, limiting the ability of either to allocate funds for quality education, for investment in productivity-enhancing transportation, communication, and research, or for ensuring the stability and efficiency of political and economic institutions. Limited resources for education and investment in many cases aggravate the already inequitable income distribution in less-developed countries as the benefits from limited investments accrue to small population groups.

The cause of difficulties faced by some countries in achieving slower rates of population growth is often attributed to the fertility decisions of poor families -- they have too many children. This view is expressed in a summary of a 1984 World Bank report.

> From one generation to the next, an unequal distribution of income can be caused by, and contribute to, an unequal distribution of opportunities and skills, as large family size and low investments in children reinforce each other.
>
> It is the poor, with little education, low and insecure income, and poor health and family planning services who have many children; yet

> it is also the poor who lose out as rapid population growth hampers development. (Birdsall, 1984: 14)

In short, it is argued, both the families who have fewer children and the nation as a whole would gain from a lower birthrate since gains in per capita income could be expected from the diversion of resources from consumption to more productive use. In the face of the growing evidence and public rhetoric that they would gain from having fewer children, why some parents prefer and have large families remains a puzzle.

One proposed answer to this puzzle has been that even when families want to make a rational family-size choice, limited availability and the cost of contraceptives severely reduce their ability to do so. Hence, some governments have subsidized family planning services in hopes of sharply reducing population growth. There is evidence that some programs have been successful in reducing population growth (Chandrasekaran and Hermalin, 1975; Mauldin, 1983; Ross, 1983). Nevertheless, in many regions of the world couples continue to want families that on average are larger than the social optimum (United Nations, 1985).

The resistance of couples to reduce fertility further, even when family planning services are available, has motivated the search for other reasons why couples want large families. This search, it is hoped, will suggest new ways to manipulate the institutional and economic environment within which families make decisions about childbearing. One potential reason for having children that is being given increasing attention is the support children can (and do) provide to their parents in old age. By providing old-age income that is independent of children, it is argued, a major motivation for large families would be eliminated.

III. Framework for Examining the Old-Age Security Motive for Children

The demand for children by parents is typically measured by completed family size or by statements about ideal family size or the desire for an additional child. This demand is determined by the value parents assign to the intrinsic emotional benefits they obtain from raising children, as well as by the degree to which children are complements in the attainment of other goals, such as social prestige or higher family income (Lee and Bulatao, 1983). The benefits obtained through children are modified by both their emotional and financial costs to parents.

The assumption that fertility decisions are based in part on the economic gains from children is the underlying thesis of most of the empirical literature on parents' conception choices. This implies an explicit accounting and weighing by parents of the money costs and benefits of children Nevertheless, researchers do recognize an important role for the emotional and psychic costs and benefits of children that are not easily measured directly. In part, this must be so since, at least in the more-developed countries, children are wanted even though their net economic cost to parents is large (Lindert, 1983). The existence of large non-monetary benefits from children, however, does not invalidate the use of a cost-accounting framework as a means of identifying the way in which economic factors influence parental decisions.

The money costs and benefits of children can be quantified by considering 1) the implicit value of time and commodity inputs used in raising a child, and 2) the value of the child's in-kind or cash contributions to the household economy. The net cost to parents of a child over the parents' expected lifetime is usually presented in the following manner, or some variation thereof.

$$\begin{matrix}\text{Net}\\ \text{Cost}\\ \text{(NC)}\end{matrix} = \sum_{n=1}^{N} \sum_{t=1}^{T} \left[\frac{(p_{nt} W_t L_{nt}) + (p_{nt} P_{nt} C_{nt}) - (p_{nt} w_{nt} l_{nt})}{(1+r)^{t+1}} \right]$$

The terms in the numerator represent, respectively, the implicit labor value of the time parents devote to rearing their children, the cost of goods provided by parents to their children, and the value of earnings and goods that accrue to the parents from children. These three terms are considered over the number of years that at least one parent is expected to survive, T. Each year's value is discounted at an appropriate discount rate, r.

The costs of raising children are attributable to time and goods inputs. In raising children (of number N), parents devote time L (e.g., hours over time t), each unit of which can be valued at the foregone wages, W, of the parent. Children consume purchased goods and services (C) whose per unit price is designated as P. These costs are offset by the contributions the child makes to the household in the form of unpaid labor, in-kind gifts, or cash earned elsewhere and contributed to the parents' household. Either type of transfer has a calculable monetary value representable by the time (l) spent by the child either in the household production of these goods and services, or by the time spent to earn the contributed cash or goods, multiplied by the actual market earnings (w) or foregone wages of the child. Because these costs and benefits accrue to parents only if they and the child survive, each year's expected costs or benefits are weighted by the joint probability of the child's and parents' survival (p) from the child's birth. Note that because the costs and benefits of children are discounted -- on the reasonable assumption that parents value future income less than they do the same income now -- the pattern of costs and benefits over the parents' lifetime matters. Costs and benefits received early in a parenting period will be given greater weight than those incurred later.

Old-age security enters this model only if children are expected by their (soon to-be) parents to provide support in their future old age. For this to be true, first young parents must be sufficiently concerned about the possibility of not being able to support themselves in old age with their own earnings and savings that they will consider actions that promise to reduce that uncertainty. Second, when elderly parents have few alternatives but children for support in old age, young parents must also view their own children as a means of providing insurance against this perceived source of income uncertainty. Finally, parents must be risk averse, and, when able to pay for some form of old-age insurance, willing to purchase the insurance policy with the highest present net return. If parents behave in this way, the above equation can be rewritten in a way that directly highlights the role of children as old-age insurance in fertility decisions. Thus, children are a "good" insurance policy if:

$$\sum_{t=1}^{d} \sum_{n=1}^{N} \left[\frac{(p_{nt}\, W_t\, L_{nt}) + (p_n{}^t\, P_t\, C_{nt}) - (p_{nt}\, w{n_t}\, l_{nt})}{(1+r)^{t+1}} \right]$$

$$< \quad \sum_{t=d}^{T} \sum_{n=1}^{N} \left[\frac{(p_{nt}\, w_{nt}\, l_{nt})}{(1+r)^{t+1}} \right]$$

The right-hand side represents the present value of expected support (in time or cash) from children from year d, when parents' earnings cease, until the end of the parents' life. The left-hand side is the present value of the net cost to parents of purchasing that insurance, where N, again, is the number of children.

Young parents' concern about their old-age income security may not lead to its playing a role in their fertility decisions. Lindert argues that because even low discount rates result in future income having a small present value, "when the more remunerative later years of childhood have been deflated by appropriate survival and discount rates, it seems likely that children are a net economic cost even in the least developed setting" (Lindert, 1983: 507). In this case, he argues, the present value of old age support is small for young parents and will not offset the high current costs of young nonworking-age children.

Cain (1983, 1985) counters, however, that the way in which the benefits and costs of children are usually estimated is not correct and leads to the "myopic" neglect of the role of expected old-age support from children in fertility decisions. There are three reasons given by Cain why the value of expected old-age support provided by children may be underestimated. First, young parents may prefer receiving income support from children than from other forms of insurance, even when there is no difference in the size of the expected benefits from or in the probability of receiving that income. Second, the use of current levels of transfers from adult children to elderly parents, as is often done in these estimates, may grossly underestimate what current young parents expect in their own later years from their own children. Third, it may be that parents do not discount all benefits and costs at the same rate of discount; lower discount rates may be applied to expected old-age transfers from children because they are seen to be a more certain or controllable source of income. If the first two are true, it is inappropriate to infer future old-age support from current money flows between generations. For the third reason, uniform discounting of all costs and benefits is wrong. The net result of the three errors, nevertheless, is to undervalue the importance of expected old-age transfers from children in parental fertility decisions.

The proper money value and discounting of future old-age support from children are not the major issues that need to be resolved before we fully understand the role old-age security plays in fertility decisions. Indeed, we know that young workers of child-bearing age do consider retirement needs in making savings and work decisions. Well-developed insurance markets in the more-developed countries attest to the willingness of young workers to give up significant amounts of current income for future retirement income.[1] What is at issue is why children should be preferred over other forms of insurance and how parents evaluate the benefits and security of children *and* other insurance options. On this issue little work has been done; note that the formulation of the net cost of children above ignores all other insurance options.

The theory that the old-age security value of children matters concerns the *relative* strength of the old-age security motive compared to other reasons for children and compared to other forms of old-age insurance in explaining differences in family-size preferences across geographic areas and over time. Specifically, young parents' desire for greater income security in old age is hypothesized as a *major* factor in the decisions they make, only one of which is how many children they will have. When few insurance alternatives to children can be purchased the necessary expectation of dependence on children in old age results in parents having more children than they would if there were other ways of insuring against the loss of earnings when old. If parents do behave in this way, only then can government-sponsored social security programs that provide comparatively secure and generous benefits in old age reduce the value of children as old-age insurance and, thereby, reduce family size and population growth.

Attempts at providing a broader social and economic context for the narrow cost-accounting framework described above have been made. Nugent (1985) outlines the social and economic environment in which the old-age security motive would have strength in fertility decisions (see below). Others have offered alternative approaches to modeling family-size decisions (Cain, 1983). Bargaining models have mentioned the importance of old-age security in family decisions, although the relationship to fertility level has not been well developed (Ben-Porath, 1982; Pollak, 1985). Nevertheless, the cost-benefit framework remains the major underpinning of discussions and empirical work on this issue, with suggestive alternative frameworks most often focusing on the way in which costs and benefits are made evident and the mechanisms by which these assert themselves into a couple's choice of family size.

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[1] In 1980 the ratio of employer-provided insurance premiums to total payroll was .126 (Kotlikoff and Smith, 1983). In U.S. colleges and universities the employer expenditure on insurance was over 18 percent of payroll (TIAA-CREF, 1982). An additional 11 percent of total wages and salaries in 1980 was paid as employer and employee contributions to the Old Age, Survivor, and Disability Insurance program (Social Security Administration, 1985).

Nevertheless, the cost-benefit approach has been valuable in suggesting important factors that may influence childbearing decisions. Although not explicitly included in the equations above, the effect of other insurance options can be deduced. As written, the second equation above implies that the total value of the insurance policy purchased by parents by having children depends on the behavior of all children. This is reasonable since increased competition for parental resources provided by additional children may alter (either increasing or decreasing) the willingness of older children to provide support. Even when children do not compete, additional children will reduce the support required from any single child, perhaps allowing changes in the total support provided to parents. Of course, this is offset by the higher cost of raising more children.

The longer the parents' expected retirement period (T-d) and the greater the probability of joint survival by a parent with any of their N children (p_{nt}), the greater the value of the expected old-age support from children; the first increases the demand for old-age insurance and the second increases the probability that any single child will survive to provide it. Higher wages of children (w_{nt}) raise the benefits that can be expected from children as old-age insurance, but only if the now higher opportunity costs of caring for parents does not induce a change in the quantity of services provided (l_{nt}).

The social forces that cause these factors to change have ambiguous effects on the old-age security value of children because several factors in the benefit-cost relationship are affected. For example, decreases in mortality raise the probability of joint survival; children are more likely to grow to adulthood and parents to survive past retirement. The first increases the return on raising children since they are more likely to live through both the high-cost early years and high-return later years. But the second increases the period (T-d) over which at least one elderly parent must be supported. How parents respond cannot be predicted. Now assured of at least one surviving child, they may reduce the number of children they bear, if survival of a given number of children is the goal. On the other hand, if a given level of support to themselves is the goal, parents may maintain high fertility levels in order not to increase the required lifetime support from each child and, thereby, not to risk the willingness or ability of any child to provide that support.

Likewise, the affect of wage growth cannot be predicted, since it is the relative size of changes in parents' wages (W) and those of their children (w) rather than the absolute change in each. Increases in the wages of parents increase the opportunity cost of children. However, this may be offset by higher expected transfers from more wealthy children. Hence, if parents expect large gains in earnings for their children, it may be rational to use their (higher priced) time in raising children rather than in market work through which other forms of old-age insurance can be purchased. This is more likely to be the case if insurance markets do not keep pace with wage growth and if parental wage gains cannot be used to purchase safe insurance alternatives.

Nugent (1985) attempts to explicitly incorporate other insurance into this framework by specifying the conditions under which the old-age security motive for children will operate. The following discussion is based largely on his work.

If insurance is a normal economic good, parents will buy more of the relatively cheap insurance. When secure and cheaper alternatives to children for old-age insurance exist, the relative advantage of purchasing children as insurance will be low, even if their absolute value remains high. These alternatives may include insurance offered through the market, publicly provided social-insurance programs, and the accumulation of assets through the parents' own savings. The relative price of children as insurance will be affected by differences between them and other forms of insurance in both probable survival until and throughout the parents' old age (i.e., the probability of children surviving compared to the long-run security of market alternatives) and the benefits promised. Differences between the expected return from insurance premiums or personal savings and anticipated increases in child's wages will determine the expected benefits from each. This suggests that if parents doubt the stability of capital markets or the ability of the state to deliver on promises of old age income, the value of those benefits will be reduced by these lower expected survival rates. If parents anticipate rapid increases in the wages of their children, they will prefer old-age income based on these higher wages to the income they themselves would receive from a social insurance or self-insurance plan whose premiums and hence benefits are tied to their own current, lower wages. The absence of alternative insurance opportunities is not necessary for children to be valued for old-age insurance purposes.

Recall that the key assertion of the theory is that the old age insurance motive is a major explanation for large families in less developed countries and particularly in rural areas. So far, the theory described above would explain why some couples have children and others don't. Several reasons have been offered for why the old-age insurance motive may also lead to a preference for large families:

1. Because the security of their old-age annuity depends on the parents' joint survival with at least one child, Nugent (1985) speculates that large families may be necessary in high mortality regions to insure at least one child surviving. Unanticipated declines in infant and childhood mortality would then cause more children to survive to adulthood than expected, increasing national population growth beyond the level that would have occurred if parental expectations had been met. However, this should occur only in the short-run as successive cohorts of young parents use the information from those parents with unexpectedly large families to alter their own fertility goals.

2. Rapid industrialization and urbanization, by reducing family ties through joint-living and family enterprises and increasing both money and opportunity costs of caring for aged parents, may increase the probability that some children will refuse to support elderly parents. Anticipating this possibility, parents will have several children to insure that at least one child will provide the desired support (Nugent, Kan, and Walther, 1983). Although this will increase the relative cost of old-age insurance through children as more children must be supported through childhood, if care purchasable in the market place is not an alternative to neglect by children, larger families may be the only way to insure some income in their later years.

3. Having children allows parents with large asset holdings to use this wealth as a bargaining tool to require loyalty from children. If the sibling providing the greatest services and income to the parents is likely to inherit the greatest share of the parents' wealth, parents have large families in order to increase competition among children for their share of the inheritance (Pollak, 1985).

4. Finally, when the responsibility for support is required of one sex (most often, sons), families will be larger than will be the case when children of either sex are expected to provide that support, since the parents must ensure that at least one son survives into adulthood (De Vos, 1984; McClelland, 1983 (Appendix)).

In summary, the old-age security motive children is provided as one explanation for the persistence of large family norms in some countries. A satisfactory theory, however, has not yet been presented for why large over small families should be preferred, and what factors are particularly important in affecting the relative price of and returns from children as old-age insurance. This is partly because the economic and social environment within which parents make their family size choices has not been explicitly incorporated into a theoretical model. This will be more apparent as we review the empirical literature in the next section. The most-often offered cost-benefit approach described above has suggested factors that affect the absolute returns to parents from children as old age insurance. From this model it is possible to infer what the effects of these and other factors may be on the relative insurance value of children.

Because children may be valued for their economic returns in production well before their parents retire, the role in family-size choice of parental expectations about old-age income from children has been difficult to ascertain. This is, however, one of the key assertions of the theory -- that the net present value of old-age income transfers that parents expect from their children is large and plays a role in fertility decisions that is separable from that of the returns expected from children prior to the parents' old-age. How to separate these two reasons for having children--i.e., for their value as old-age insurance and their value as younger productive units -- is one of the most difficult issues that must be dealt with in empirical work on this issue. There is a body of empirical work that has tried to isolate the effect of old-age insurance concerns of parents from other factors affecting childbearing decisions, and it is that literature to which we now turn our attention.

IV. Empirical Evidence of the Old-Age Security Motive

Evidence for the effect of old-age security programs on fertility comes from three types of studies:

1. Multivariate cross-sectional analyses of the effect of pension variables on fertility measures.

2. Surveys of what parents say about the role of old age expectations in their decisions on how many children to have, and

3. Studies of the correlation between high fertility levels and the prevalence of conditions that are assumed proxies for the degree of dependence on children for old-age security.

The findings of each group of studies will be discussed in turn. Because the most important hypothesis of the old-age security value of children is that where few insurance alternatives exist, parents will want larger families than would be the case in an environment where secure alternatives are provided, the strength of the evidence for a negative relationship between fertility and pension alternatives is the criterion upon which the empirical evidence will be judged.

Relationship between pension coverage and fertility: The study by Friedlander and Silver (1967) was the first, and remains one of the most thorough cross-national studies of the relationship between old-age pension coverage and fertility. Controlling for a large variety of economic and social characteristics that were expected to have an independent effect on fertility, Friedlander and Silver found that coverage rates for national old-age insurance programs had a negative effect that was just barely significant when all countries were included in the sample. Interestingly, when the sample was divided into groups representing three levels of development, a negative effect was found only for the two more developed groups; pensions had a positive effect on fertility in the least-developed countries. Because the authors hypothesized that communist governments were more likely to provide old-age income programs with broad coverage, they included a separate dummy to capture this effect. The coefficient on this dummy was negative, large, and significant, supporting their hypothesis that greater income security will lower fertility. Other aspects of these nations economies, however, which lowered fertility may also have been measured by this dummy.

Hohm (1975) replicated this study closely, expanding the sample to 67 countries but using fewer and somewhat different control variables. Controlling for infant mortality, newspaper circulation,and per capita domestic product, he obtained somewhat mixed results. The effect on total fertility of coverage (participants/economically active population) and benefit levels (annual national expenditures/beneficiary population) of public old-age security programs was consistently negative but not always significant when subsamples were selected, a procedure required by his estimation of the value of missing independent variables from values of those not missing. Only in the regressions with all observations and in one subsample was the coefficient on the social security benefit level significant; in all models the coverage index was insignificant.

Kelly, Cutright, and Hittle (1976) criticized Hohm's conclusions about the ability of pension programs to reduce fertility. They raised two objections to Hohm's analysis: (1) that his results could arise from inadequate statistical control on national development levels and (2) that in more-developed countries national old age security programs were passed after the decline in fertility began. Controlling for modernization with a more comprehensive index that includes other indicators as well as those used by Hohm, they find no significant correlation between total fertility and Hohm's two social security variables. In arguing their second point they present data for selected European nations that were included in Hohm's sample and show that fertility in these countries consistently began to decline no later than -- and in most cases many years before -- the time at which the first old-age security legislation was passed. Correctly, they argue that the inclusion of these countries biases the observed relationship in the desired direction: high benefits and coverage are associated with lower total fertility, but the timing indicates that the measured relationship may be entirely spurious.

Hohm (1976) rebutted by reporting an additional analysis with a larger sample and a different social security index (national social security expenditures/gross national product). Although he argued that his new results "strongly support my contention that social security programs have a causal effect on fertility" (p.588), the reported ratio of coefficient on the social security index to its standard error is low. Further he argued that the criticism of his results using longitudinal data was irrelevant, since "no one...has argued that social security is a necessary prerequisite for fertility decline. Instead...Social security programs may contribute to fertility declines once the programs become established and may also facilitate the retention of low fertility rates" (p. 589).

Bollen and Entwisle (1981) tested whether the inclusion of the more developed countries in fertility analyses altered the results obtained when only less-developed countries were studied; in their analysis they found little difference. More interesting is their criticism of studies examining cross-national differences in fertility is their assumption of a linear relationship between development and fertility. Replicating Hohm's study, they found his results reversed when a quadratic term for development was included: rather than being unimportant, the level of economic development became the most important explanatory variable, while the significance of his two social security indices (coverage and benefit levels) fell sharply. In an unpublished paper Entwisle (1980) presents research that estimated a (linear) lagged model of the relationship between pension measures and total fertility. A significant negative relationship was found, though the results were weak. While the pension index was significant, it was barely so, and its effect in the lagged model was both below that using single-year data and less important than the effect of the modernization index. However, it is difficult to evaluate the relative strengths of changes in pensions programs compared to changes in other aspects of modernization; her use of insufficiently explained indices does not permit the reader to evaluate how large the effect would be on fertility of expanding benefit levels or coverage.

The inconclusive results of these cross-sectional studies arise primarily from the lack of consensus of how to control for other aspects of economic development that have separate effects on fertility. In addition, by using aggregate data to test models of individual behavior it is likely that important features of available public programs are not controlled. The theory speculates that the relative security and benefit levels from different insurance alternatives matter, yet variables included in these studies may not measure differences across countries in the effectiveness of pension law. Small samples increase the likelihood that a few countries with extreme values for the dependent and independent variables can alone cause the observed results. More important, the pension variables included and the conclusions drawn frequently do not accurately reflect the theory by which their inclusion is justified. For example, Hohm found a barely significant effect on fertility of average benefit levels but no significant effect of public pension coverage. This is a difference that should have provoked considerable discussion, since the first measures benefits currently paid, typically in less-developed countries, to a small fraction of the elderly population, while the second more accurately reflects the availability of nonchild insurance to young parents.

Nugent (1985) criticizes these studies as failing to measure the fertility-pension relationship among those groups whose behavior the theory specifically addresses -- women and rural populations. His own study (Nugent and Gillaspy, 1983) answered his criticism by examining the relationship between area-specific fertility rates and insurance alternatives for 34 counties in the sugar cane-growing region of rural Mexico. In 1963 Mexico extended coverage of its social security program to sugar cane workers (among others), thus providing the opportunity to investigate the effect of this legislation on fertility in these counties between 1960 and 1970. Unfortunately, apparently because no coverage data are available by county, the share of income from sugar in the total agriculture income of each county was used as a proxy for the social security coverage variable. Introducing controls for other aspects of development, Nugent and Gillaspy found that the social security proxy had a strong negative influence on changes over the decade in the number of children aged 0-4 per woman aged 15-44. A first in the literature up to that date was their estimate of the actual change required in social security coverage to achieve a significant change in fertility. They estimated that increasing participation from zero to 50 percent of the population would reduce the child-woman ratio by more than one-tenth.

Cain (1981) also looked at the fertility of a rural population in his comparison of three villages in India and one in Bangladesh. The higher fertility in Bangladesh he attributed to the greater dependence in the former of parents on children as insurance against risk. In the Bangladesh village there was greater risk from natural disasters and virtually no credit institutions; the primarily Moslem wives were restricted to household activities, even as their Hindu counterparts were able to counteract disaster through market work. Based on these findings, Cain dismissed the cost-benefit accounting framework that hypothesizes multiple benefits from children in favor of a risk aversion model that has been successful in predicting farmers' behavior.

> ...the analogy in the case of reproductive decisions is the assumption that parents wish to maximize "utility" subject to the chance constraint that the probability of inadequate support and quality of life in old age is less than or equal to some target probability. Here the first priority is to make adequate provision for the future with reasonable certainty. Only after this constraint is fulfilled do parents concern themselves with the fertility implications of the more familiar time and commodity costs and benefits of children. (Cain, 1981: 696)

Cain points out that it is not only old-age income insecurity against which parents wish to insure but any risk they face against which children may provide insurance. This both broadens the theory of the old-age income security value of children and complicates it. When old age is just one of the risks against which parents seek insurance in a complex society, the separable effect of nonchild pension programs becomes difficult to distinguish, since modernization is likely not only to increase the array of insurance alternatives but also the risks to which workers and the family may be subject. Nevertheless, Cain's speculation suggests that the value of children as old-age security may be only one component of the broader insurance choices made by young parents and not easily separable from the insurance they may provide against other contingencies.

In conclusion, a small number of studies have attempted to measure directly the effect of old-age insurance programs on fertility. The formulation of the hypothesis to be tested closely follows the theory: where alternative insurance programs are not available, the relative value of children as old-age insurance will be high. Controls for other aspects of economic development separate the effect of the independent variables on differences across areas in the relative versus absolute value of children. The results have been disappointing. They are sensitive to which countries are included, to variable definition, and to model specification. These aggregate data typically do not differentiate between populations for whom the insurance motive would be strongest (rural populations), a potentially important requirement in nations where pensions cover urban workers only. They also do not include factors that may be important once alternatives exist in the evaluation of these alternatives by parents, such as the security of promised pensions. Perhaps the major difficulty lies in separating out the effects of economic growth and the development of pension programs that are themselves typically associated with economic development. Few studies include interaction or nonlinear terms that may better model the relationship between these two variables. Even in those studies in which (barely) significant results are reported, the use of indices makes it difficult to judge the relative strength of pensions versus other aspects of economic development on fertility. Yet it is precisely the strength of this effect that is important if these results are to serve as a guide to governments in establishing legislative priorities.

What Parents Say about Old-Age Security: A second set of studies infer social security program effects from the reasons parents give for having children and the role of expected support from children in determining family size. Data come primarily from two types of surveys: Knowledge, Attitude, and Practice (KAP) surveys and the Value of Children (VOC) surveys. The KAP surveys were taken most often to ascertain contraceptive practice and motivation and were not designed to test the differential effects of socioeconomic change on fertility. Nevertheless, in reviewing the results of these surveys Matthew (1975) concludes that

> ...evaluation of children as the source of family strength and the economic anchor of the family and sons as the security against old age was the major motive for desiring children.(p.103)

Because these surveys use different sampling procedures and different survey instruments, the results are difficult to compare across countries and are largely suggestive of the impact of changing support expectations on family norms.

More useful for this purpose are the VOC data. In-depth interviews were conducted with young married adults in nine countries: Germany, the United States, Singapore, Indonesia, Korea, Philippines, Taiwan, Thailand, and Turkey. The surveys were designed specifically to ascertain and compare the importance of children in enabling parents to attain social and economic goals (Simmons, 1977). This was done by asking interviewees to rate the relative importance of items included in a list of reasons for having children; they were also allowed to respond to open-ended questions on their fertility goals. The design of the surveys and selected results are more fully described in Arnold et al. (1975) and Kagitcibasi (1982).

Nugent (1985) and Fawcett (1983) reviewed consistent findings among the various VOC surveys: (1) the old-age-security value of children was seen as very important in the desire for additional children in less-developed countries but not in the more-developed countries, (2) parents in rural areas and women were more likely to cite old-age security as a reason of having children, while urban parents and men were more likely to mention the emotional benefits of children and their economic costs, and (3) male children were in general seen as a more important source of support than were female children. However, studies of individual countries indicate important differences across countries.

Arnold et al. (1975) noted that in the Philippines, but not in Korea, old-age support was frequently mentioned as a motivation for wanting additional children. On the other hand, Bulatao and Arnold (1977) reported that, when controlling for selected personal demographic and economic characteristics of wives and husbands, only in Korea -- and then only for wives -- did old-age support from children have a (positive) effect on ideal family size. Strangely, in comparing responses from Japan, Taiwan, Thailand, Korea, and the Philippines, Arnold et al. (1975) noted the striking absence in these countries of any mention of the current economic benefits of children in fertility decisions, a finding that conflicts with multivariate analyses of the fertility decisions in these countries. Because indicators of expected help from children (e.g., help around the house, economic help from children, and help in parents' old age) are most often combined into one index of economic help, thereby obscuring differences in the relative effect of support in old age versus help with parents' productive activities (see for example, Bulatao and Fawcett, 1983), I describe in some detail the findings of a study that does not make this aggregation.

De Vos (1984, 1985) used VOC data for women in Taiwan and the Philippines to examine the relationship between old-age support expectations from children and fertility in these two countries. Her careful and detailed study demonstrates how conclusions drawn about international differences depend in part on the particular responses that are used to indicate expectations of old-age support. For example, in response to an open-ended question about reasons for having children, 41 percent of Filipino women -- but only 29 percent of Taiwanese women -- mentioned old-age support. In contrast, when asked about having sons, 47 percent of Taiwanese cited old-age support,contrasted with only 4 percent of the Filipinos. Answering a close-ended question about whether help in old-age was an important consideration in having children, almost everyone replied affirmatively (89 percent of Filipino women and 79 percent of those in Taiwan); yet when asked about the role of old-age support expectations on their desire to have an additional child, 78 percent of women in the Philippines -- but only 38 percent in Taiwan -- said that was an important consideration. On the other hand, somewhat over half of the Taiwanese respondents expected to rely on children, while just over one-third of those in the Philippines expected to do so.

A simple comparison of responses in the two countries cannot capture the relative role of support expectations versus other factors in fertility differentials. To do this De Vos looked at the effect of expected financial support from children on fertility, controlling for age, age at marriage, number of live births, attitude toward contraception, family orientations, and socioeconomic characteristics (education, residence, husband's occupation, family income, and exposure to mass media). A significant and positive effect of support expectations on ideal family size was found, and a barely significant effect on wanting an additional child. De Vos's results were strongest when women who expected a great deal of support were contrasted with those who expected only "some" support from their children. I review these, ignoring the weaker results for women who expected none versus those who expected some support from children. Because she showed a significant effect of support expectations on fertility, De Vos's analysis of the determinants of those expectations is important. She found that the odds of expecting to rely on children for only a little (versus a great deal) of support in old age were greater the higher the occupational level of the husband, the higher the education level of the wife, and the higher family income. These results were found for both countries. Only in Taiwan did residence (urban/rural) have a significant effect.

Unfortunately, the VOC data do not contain information on the variable that is of particular interest in assessing the effect of social security on fertility. No information is provided on the available public insurance that may have influenced respondents' support expectations. Most important, there is no information on differentials among respondents in their eligibility for other insurance options. De Vos presents some evidence that hints at how alternative insurance opportunities may influence fertility. First, Taiwanese women (the information is not available for the Philippines) who felt it was "wise to save money while young so that one does not have to rely on children when old" were significantly less likely to expect a great deal of support from their children in old age. (These attitudes may be shaped by the availability of secure saving opportunities.) Second, for both countries, expectations about other economic support from children was associated with expectations of old-age support. To the extent that parents require children's labor to generate sufficient assets for retirement, these expectations may proxy for the lack of alternative mechanisms to secure assets.

Nevertheless, the responses of men and women to the VOC surveys fail to provide empirical evidence on how the public provisions of old-age insurance may modify fertility goals. Although parental expectations of economic help explain variations in fertility levels across countries, the role social security programs play in changing those expectations cannot be directly examined.

Mention should be made of the consistently found relationship between parity levels (number of living children) and old-age support expectation. These expectations play a significant role only at higher levels of parity, even after controlling for socioeconomic characteristics of parents. De Vos reports that the odds of wanting an additional child was significantly influenced by old-age support expectations only for parents with 3 or more children in the Philippines, and only for those with 3 (but not 4+) in Taiwan. Why support expectations should not operate at lower parity levels is not explained. In the United States, no effect of number of children on support expectations has been found (Kivett and Atkinson, 1984).

The following tentative conclusions can be drawn from the VOC studies about conditions under which the old-age income support motive might be important:

1. If it were substantiated elsewhere that alternative insurance opportunities are important in determining expectations of

reliance on children in old age, the VOC data would then be useful in establishing the link between those expectations and fertility. Together, these studies would predict a fertility effect from the introduction of old-age social security programs. However, the first link is not firmly established.

2. That wives and husbands in all countries and at all socioeconomic levels were cognizant of the costs and benefits of children indicates that the introduction of programs to increase costs or reduce the relative benefits of children as insurance is likely to affect family-size decisions of couples. There is no consensus on the relative impact of different programs.

3. That the help of children in old age is mentioned frequently by young parents as an important reason for having children attests to young parents' consideration of the long-run roles children play in the household economy. Their concerns belie the oft-claimed low present value of future transfers from children to parents and indicate that parents may be attracted to other insurance opportunities.

While these findings support the validity of the underlying cost-benefit framework that has been used to guide analyses of the demand for children, they give frustratingly little firm evidence upon which to base policy recommendations. Some of the VOC results are not easily explained by the theory of the old-age insurance value of children -- for example, the strength of old-age support expectations at high parity but not at lower ones. In addition, because institutional options are not known, it may be that expectations and fertility are jointly caused by unmeasured variables or that the casual relationship is reversed.

Old-Age Security and Proxies for Dependence: A third type of study attempts to capture the relationship between fertility and old-age support expectations by examining the relationship between fertility and those characteristics of families or individuals that are hypothesized to prevail when parents must depend on children for old-age support. The most obvious example is the study of differences across geographic area and over time in the prevalence of joint-residence by married children with their parents. Interest in this is based on the assumption that when the only source of old-age insurance is children, the in-kind and cash transfers from child to parents will take place most efficiently if both reside in one household. Joint-residence minimizes the transaction costs of this exchange and allows parents and adult children to better monitor the needs and behavior of the other (Pollak, 1985).

If parents know that they are likely to need support from children in their later years, they will take action while young to preserve the household structure that best meets those later needs. As the responsibility for old-age support is assumed by nonfamilial institutions, the mutual gains to parents and children from extended households are expected to diminish, family ties to weaken, and young adult children to establish separate households. Fertility is expected to fall as child-rearing costs are borne by parents alone and as parents participate in work-related insurance programs (Davis, 1955; Kobrin, 1976, 1981; Mindel, 1979; Oppong, 1983).

This presumed relationship between old-age support from children and household composition has been challenged. Laslett (1972) argues that extended families were never dominant in European societies and the United States, even prior to the provision of old-age support through private and public institutions. When children and parents live apart, financial support and emotional companionship need not disappear (Horowitz, 1985; Shanas, 1979). Studies of household structure in Asia find great variation in joint-household residence among countries, variation that cannot be explained by economic differences (Kuznet, 1978). Nor is there consistent evidence that the prevalence of joint-households falls with economic development (Freedman, et al., 1978; Nakane, 1972; Palmore et al., 1970). Day (1985) notes that as parents have fewer children, the chance of any individual living with a parent or grandparent increases; family ties may actually strengthen as fertility falls.

Morgan and Hirosima (1983) speculate that modernization may lead to a change in the relationship among adults residing together, rather than to a change in household structure. Other research also challenges the assumption that joint-households encourage higher fertility. In India (Nag, 1967), Japan (Morgan and Hirosima, 1983), and the United States (Angel and Tienda, 1982; Tienda and Glass, 1985), wives in nuclear families have higher fertility and lower levels of labor force participation and earnings than do wives in extended households. Parrish and Whyte (1978) found that in one province of China, changes in public programs produced major declines in fertility without any change in the role of children in providing old-age support to parents. On the other hand, in some Asian countries the probability of being in a nuclear family is increasing (Chow, 1983).

V. Conclusions

The theory described in this review hypothesizes that young couples plan large families to provide security in their old age. The theory asserts that if social security programs were available to couples setting family-size family size, the relative value of children as old-age insurance would decline and couples would have fewer children.

This is an appealing theory. It is a relatively straightforward explanation for the disparity between the more-developed and less-developed regions of the world in fertility levels. It appears to explain the persistence of high fertility in rural areas of the less-developed countries, and it ascribes to parents in less-developed countries the anxiety growing in Europe and the United States over the stability of benefits from public social security programs. Finally, because public welfare programs can be instituted and administered by governments independently of the level of economic development, this theory suggests an effective means by which fertility can be influenced directly and immediately by the state.

The studies reviewed here fail to substantiate a strong effect for social security programs on family size. Studies that directly measure the effect of pensions on fertility obtain inconsistent and weak negative effects. Further efforts in this line are hampered by the lack of comparable data across countries on social security program characteristics and little consensus on the time path over which pensions affect fertility. Nugent and Gillaspy (1983), whose study of Mexico is probably the best of these studies, speculate that other factors associated with economic change and the selection of workers with small families into the more modern sugar cane sector could account for the observed relationship.

VOC data consistently show a strong effect of expected old-age help on family size, but what kind and amount of help is expected by parents is not defined. These data do not include the information necessary to determine how the institutional environment affects those expectations. Thus, the effect of public social security programs on fertility cannot be ascertained with these data.

Another body of literature relates fertility to changes in other behaviors that are assumed to be associated with the availability of nonfamily insurance opportunities. This approach is not promising, since the relationship between household structure and fertility and between household structure and intra-family transfers to parents has been questioned. With modernization, extended families may adapt their functions rather than change their composition. If this occurs, as it has in countries where extended families have always predominated, household structure will become a poorer proxy for the persistence of traditional family roles. Lindert (1983) asserts that "the fact that grown-up children and their parents live together does not tell us who supports whom." It is reasonable to argue the reverse as well -- that the fact that they live apart does not tell us who is not supporting whom. Studies of United States families indicate that while children living with parents are most likely to give personal and home maintenance help, children living elsewhere also provide companionship and financial assistance to parents. Although where the elderly live and are cared for is an important issue in and of itself, it is not likely to provide much insight into the insurance-fertility relationship.

Empirical tests have focused almost exclusively on the effect of the old-age security motive on the number of children. This is in part because the assumption underlying most statements of the old-age income security motive for children is that more surviving children provide more security. In contrast to developments in the rest of the fertility literature, the ability of parents to increase the value of children as insurance by increasing the input per child is not explicitly considered (Becker, 1960; Perlman, 1981; Willis, 1973). Even in the absence of insurance alternatives, parents may choose to reduce family size in order to increase the earnings capacity and loyalty of the children through greater time and educational inputs per child. The implication of this is that economic development should enable parents to achieve greater income security from each child even when public or private pension alternatives are not available. Why they do not or why high fertility persists is thus a far more complex issue than is recognized in most statements of the old-age security motive hypothesis.

From this review it would appear that there is little evidence that social security institutions shape family-size decisions in any important way. However, the consistent statements of parents that expected help from children matters is evidence too strong to reject entirely. It may be that data collection and analytical techniques fail to capture precisely how these expectations are formed and the role that public programs play. It almost certainly implies that we need to know what parents mean when they make these statements since help from children can range from emotional support and occasional monetary assistance to total economic support throughout the parents' old-age.

The theory and empirical work do give some guidance for policy. Parents surveyed in the VOC studies were aware of the costs and benefits of children. Thus it is likely that the institutional environment in which they plan their family does affect their decisions. The studies surveyed in this paper suggest that the old-age security motive for children may be one reason why fertility is resistant to further declines once family size has fallen to relatively low levels. As long as children provide companionship to elderly parents and serve as a last resort for needed support, parents will try to have at least one child that will survive to adulthood. Any perceived risk of infant or childhood mortality may cause parents to plan more than one birth.

If public insurance programs are to reduce the need of elderly parents for children's support, government must promise benefits with certainty, else parents' confidence in the loyalty of their adult children (as is more likely when families live in close proximity) will result in their discounting the value of public program benefits payable in the future at a far higher rate than they do benefits expected from their children. Whether experience with state policies increases or decreases confidence in public promises depends on the degree to which governments have fulfilled past promises. Frequent policy changes may result in the assumption of future changes. Planning over a long lifetime requires expectations of stability. Because social norms are likely to ensure loyalty of children (Pollak, 1985), public institutions and programs must promise the same loyalty to their elderly citizens. Thus, to successfully assume the insurance functions of adult children, public programs must assure young parents that promises of old-age support will be kept, that these will be payable to dependent wives and widows (who most often expect to receive help from children), and that benefits from public programs will be at least as large as the share of their children's income they would otherwise receive. Such programs are expensive.

Development programs not targeted on the elderly may be equally effective in changing the relative value of children as old-age insurance. As women's roles in the family and in the labor market change, daughters may be more able to assume a major share in parental support, thereby reducing the effects on fertility of son preference (Bongaarts and Greenhalgh, 1985; De Vos, 1984). Programs to expand the number and security of savings opportunities may increase the value of these alternatives relative to having children. Rising opportunities for male and female children may reinforce the old-age security motive for children but may enable parents to meet expected needs with a smaller number of children. In areas that do not have available the goods and services necessary to enable the elderly to maintain their own households (e.g., purchasable laundry services, food, transportation, and house-cleaning services), increasing the availability of these services may reduce the necessity of relying on children (Nugent, 1985).

In concluding I quote from Bulatao and Lee (1983).

> ...the debate about whether development or family planning is primarily responsible for lowering fertility is largely beside the point; both are integral parts of an intricate process that no two countries pass through in exactly the same manner. (pp. 785-786)

Similarly, we may never resolve the debate over the role of old-age support programs versus other aspects of economic development in explaining fertility levels. It is probable that both affect how parents make decisions about the number of children to bear. For governments to trust in one more than another is unwise. Both are necessary if parents are to place less emphasis on their children as a reliable form of insurance against old-age poverty.

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PROVIDENT FUNDS: AN ASSESSMENT OF THEIR SOCIAL SECURITY, SOCIAL, AND ECONOMIC PERFORMANCES AND PROSPECTS[1]

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Introduction

As a mechanism for meeting at least some human needs social security has achieved near universal acceptance. Indeed, 145 countries can be identified as having one or more social security programs. Access to social security has become a fundamental right proclaimed in numerous national constitutions (e.g., in Australia, Japan, and the People's Republic of China) and in the Universal Declaration of Human Rights adopted by the UN General Assembly in 1948. This right is realized, of course, to vastly different degrees and in a wide variety of ways -- many peculiar to a specific country, as determined by tradition, history, level of socio-economic development, and the prevailing political and social philosophies. It is, perhaps, the adaptability of the social security concept to local conditions and varied cultural traditions that explains its global appeal. Indeed, the emergence of provident funds (or compulsory savings schemes) from the early 1950s in 28 Third World countries, of which 23 remain in existence, is one example of how adaptable the social security concept is.

The primary objectives of this paper are fourfold: firstly, to define the concept of a provident fund and place it in its social security context; secondly, to compare the features of Third World provident funds; thirdly, to explore their social security, social, and economic roles; and finally, to look to their future in terms of their possible transformation into social insurance systems or their evolution into social security hybrids.

The Domains of Social Security

Within a global context the rubric "social security" covers a wide variety of public measures (Dixon, forthcoming) that provide cash or in-kind benefits or both in the event that an individual's earning power:[2]

- permanently ceases, due to old age, invalidity, permanent and total incapacity, or death;

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[2] In addition to the reasons listed, social security is sometimes used to maintain children.

- is interrupted, by short term injury or sickness, maternity, or loss of employment;

- never develops, due to a physical or intellectual handicap, an emotional disturbance, or an inability to gain first employment;

- is unable to avoid poverty, due to the inadequate work remuneration or inadequately developed personal or vocational skills; or,

- is exercised only at unacceptable social costs, such as single parenthood, individual support of elderly parents, or disabled or handicapped children or siblings.

Thus the domains of social security are:

- poverty prevention
- poverty alleviation
- social compensation
- income redistribution

It must be recognized that the concept of social security has many blurred boundaries (see Kaim-Caudle 1973, Ch.1; Midgley 1984, pp.79-84). Fiscal welfare (that is, the use of tax allowances, credits, or taxable income deductions to reduce the tax liabilities of particular target groups in order to achieve social security objectives) and non-statutory occupational welfare (that is, benefits voluntarily paid by employers to their employees and their dependents) may impinge on what constitutes social security in specific countries.[3] Moreover, cash payments dispensed by non-statutory agencies constitutes a form of social security in some countries.

Adding further complexity is the lack of consensus regarding what in-kind benefits should be treated as part of social security. In continental Europe and Latin America, medical care is considered an inseparable component of social security, whereas in most Anglophile countries it is not. Under the auspices of social security, some countries provide food rations, clothing, orthopaedic appliances, pharmaceuticals, recreational activities, sheltered workshops, occupational training, and social work services.

Five broad social security strategies can be readily identified:

- social insurance
- social assistance

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[3] The provision of statutory benefits to public employees - civil servants and military personnel - is treated as a social security measure in some countries.

- social allowances
- employer liability
- provident funds

Each has its unique combination of benefits, coverage, and methods of financing, which gives it a particular social security focus (see Table 1). Together they overwhelmingly dominate global social security practices (see Table 2). In this context provident funds are clearly the least popular strategy. Provident funds are, in their purest form, compulsory savings schemes. Covered employees and their employers pay regular contributions to a central, publicly-supervised fund, where they are credited to a separate account maintained for each employee. The balance in this account attracts interest and is payable in a lump sum upon the occurrence of specified contingencies (typically including old age, retirement, invalidity, and death). This approach to the provision of social security involves no risk pooling. Thus there is no income transfer among individual members.

The Origins of Provident Funds

Provident funds are quintessentially British institutions. They have their roots in nineteenth century industrial welfare paternalism, which began as a reaction of humanitarian employers to the shocking working conditions prevailing during the Industrial Revolution. The approach was strongly tinged then with both charity and a philanthropic sense of responsibility for the social and moral character of the employee. The names Robert Owen and Titus Salt are synonymous with the beginning of this movement.

With the passage of time, this employer paternalism developed another dimension. It became a means of achieving greater industrial efficiency and promoting industrial harmony. Thus it became more an act of enlightened self interest on the part of employers.

One expression of industrial welfare paternalism was the occupational provident fund. These were established by individual employers seeking to provide a means by which their provident employees could be protected against invalidity, old age, and death. Typically, they involved employees regularly contributing to a company-managed fund from which they or their survivors would receive specified benefits upon the occurrence of a particular contingency (commonly, invalidity, retirement, or death) or a refund of contributions, typically without interest, upon the termination of employment. The employer commonly provided either matching, proportional contributions, or deficit funding.

This idea moved to the British colonies, where it soon came under the patronage of colonial authorities. Expatriate employers, especially those involved with private plantations, private mining enterprises, and state railways were commonly among the first to establish occupational schemes for their British staff. They were used to help attract and retain suitable employees. They were also made available to permanent local staff but

Table 1 Social Security Strategies

Social Security Strategy	Primary Social Security Domain	Primary Sources of Funding	Coverage	Primary Benefit Eligibility Qualifications	Primary Forms of Benefits	Primary Social Security Focus
Social Assistance	Poverty alleviation	Public revenues	Persons with limited means in designated categories	. Domicile . Means lost	. Flat rate periodic payments . In kind benefits	Persons in need, irrespective of their current or past employment status
Social Insurance	Poverty prevention	Contributions from covered employees, their employers and from public revenues	Members of social insurance programs	. Contribution or employment record	. Earnings related or contributions related periodic payments . Health care . In-kind benefits	Persons suffering a cessation of, or an interruption to, their earning power
Social Allowances	Social compensation	Public revenues	Persons in designated categories	. Domicile	. Flat-rate periodic payments	Persons with additional income needs
Provident Funds	Poverty prevention	Contributions from covered employees and their employers	Employees in designated categories and their dependents	. Past payment of contributions	. Lump-sum payments	Persons suffering a cessation of their earning power
Employer Liability	Poverty prevention	Employers	Employees in designated categories and their dependents	. Current employment	. Earning - related periodic payments . Lump-sum payments	Persons suffering a cessation of, or an interruption to, their earning power

Table 2 A Global Overview of Social Security Practices

Predominant Social Security Strategy	BENEFITS PROVIDED																			
	Family Assis-tance		Retire-ment/ old age		Invalidity		Survivors'		Sickness		Maternity		Employ-ment Injury		Unemploy-ment		Child Benefits		Medical Care	
	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
Social Insurance	14	(27)	95	(71)	97	(73)	95	(72)	75	(62)	91	(76)	91	(70)	29	(46)	39	(57)	70	(54)
Social Assistance	32	(63)	3	(2)	5	(4)	5	(4)	3	(3)	1	(..)	-	-	6	(9)	2	(3)	-	-
Employer Liability	4	(8)	2	(2)	2	(2)	2	(2)	36	(30)	26	(22)	39	(30)	17	(27)	6	(9)	9	(7)
Provident Funds	-	-	23	(17)	20	(15)	22	(16)	3	(3)	-	-	-	-	8	(12)	-	-	-	-
Social Allowances	1	(2)	10	(8)	6	(4)	5	(4)	2	(2)	2	(2)	-	-	2	(3)	21	(30)	47	(37)
Other	-	-	1	(..)	2	(2)	2	(2)	-	-	-	-	-	-	2	(3)	1	(1)	2	(2)
Total	51	(100)	134	(100)	132	(100)	131	(100)	119	(100)	120	(100)	130	(100)	64	(100)	69	(100)	128	(100)

commonly on a less generous basis. State railways on the Indian sub-continent and in British colonial Africa, for example, created a variety of provident funds for their workers and staff in the 1880s and 1890s (see Riebenack 1905, pp. 118-26).

These occupational provident funds were, by the middle years of the twentieth century, peppered throughout the British empire (Pilch & Wood 1960, pp. 18-19). They provided a useful social and institutional heritage upon which newly emerging countries could build their first social security systems.

A Comparison of Third World Provident Funds

Provident funds are currently unique to the Third World [4]. They are considered suitable: (a) in environments where there are irregular employment patterns where the extended family, tribal or village groupings are still largely intact and thus able to provide some social support; (b) where the administrative milieu is such that simplicity of administration if of paramount importance; (c) where certainty of benefit payment, even at the expense of no risk pooling, is a significant determinant of the popular acceptance of social security measures; and (d) where there is a desire by government to increase the level of savings to promote economic development. They undoubtedly constitute one of the most popular forms of social security wherever they have been established (Wadhawan 1969). The continued existence of national provident funds is not due to the fact that they are a particularly effective form of social security. Rather it results from the fact that they enhance the quality of life of their members and the community at large (Dixon 1982, 1985).

The various Third World provident funds are, unquestionably, the enfant terrible of social security. The unfettered popularity of national provident funds among (a) their members, who identify with "their" deposits, (b) their sponsoring governments, who see them as self-help vehicles for the provision of basic social protection and as a means of mobilizing savings for low-cost public use, and (c) contributing employers, who see them as the means by which their moral obligations for the welfare of their employees is fulfilled at a known cost, gives them a certain credibility and a resilience to fundamental change. Indeed, much is said in a rhetorical vein about the desirability of converting national provident funds into social insurance schemes, but only the most adventurous countries have taken any definite steps towards a risk-pooling social insurance beyond, of course, seeking the technical advice of proselytizing social insurance sages from the International Labor Office. Over the years only five countries have converted their national provident funds: Egypt (1958), Iraq (1964), Dominica (1976), St. Lucia (1979), and the

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[4] The appendix to this paper is available from the author. It contains a complete list of provident funds throughout the Third World -- including starting dates, coverage, numbers of participants, contribution levels, withdrawal and benefit options, and auxiliary social security programs. [Editors]

Seychelles (1979). Tanzania, for some years, has been in the gradual process of change. Interestingly, Chile is in the process of transforming part of its 50 year old social insurance system into a compulsory saving scheme or provident fund for old age benefits, financed by employee and government contributions.

1. Coverage

Provident funds focus their attention on the urban wage-earning class -- those most affected by the economic development process and its attendant social changes.[5] The problems of penetrating the rural working population, especially those relating to irregular employment patterns, rural migration, illiteracy, poor communication systems, and geographic isolation, have proved to be quite impenetrable.

Provident funds typically cover regularly-employed wage earners in industry and commerce. Primarily for administrative reasons, short-term or casual workers and agricultural labourers are generally excluded. Moreover, it is not uncommon for employees of small firms (variously defined), domestic servants, the self-employed, public employees, apprentices, migrant workers and members of equivalent private provident funds to be excluded, although in some cases voluntary coverage is possible. Where the self-employed are given voluntary access to the provident fund (as in Fiji and Ghana), they are required to pay the appropriate combined employer and employee contribution rate. Only India excludes employees if their earnings exceed a given level.

2. Contributions

All provident funds require the employers of covered employees to pay regular contributions to them, part of which the employer is permitted to deduct from their covered employees' wages. The employer's contribution is considered appropriate because the provision of social security protection by provident funds is thought to benefit employers by reducing their labour turnover and by providing them with a more contented workforce. It is also argued, on equity grounds, that the cost of any deleterious effects of working conditions on the health of workers should be shared with employers. Only in India and in Chile do provident fund beneficiaries receive a government subsidy.

The contribution payable to provident funds can be expressed either as a flat rate or as a percentage of wages. In either case there can be a uniform rate for all members, a set of multiple rates differentiating between different employee categories or a progressive rate differentiating between different wage rates or wage categories. The uniform wage-related approach is undoubtedly the most popular, as it is the simplest to administer. No country currently uses the flat-rate approach, although Iraq did so prior to the conversion of its provident fund to a social insurance system in 1964. Multiple rates for different employee categories are specified in India (on the basis of the size of the employer) and in Singapore (on the basis of whether a public or private employee and whether a public employee is pensionable or not).[6]

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[5] As they mature as social security institutions their coverage broadens to penetrate further the urban population.

All provident funds, except in Malaysia and Singapore, base their contributions payable on the covered employees' actual wages. Malaysia has a complex system of wage categories, twenty-four in all. Singapore specifies three wage categories.

The wage categorization approach means that the contribution payable by, and with respect to, an employee in a specific wage category is determined by the midpoint of that category. Hence the contributions payable in relation to an employee in the lower half of a wage category is higher than they would be if they were assessed on actual earnings, whereas the contributions payable in relation to an employee in the upper half is less.

The practice of specifying the maximum (or minimum) amount of wages to which the contribution rate applies is becoming common. Contribution ceilings are specified in Fiji, Kenya, Malaysia, Nigeria, Singapore, St Vincent, Swaziland, Zambia, and Montserrat. Contribution floors are specified only in India and Singapore (for private sector employees).

3. Social Security Contingencies Permitting Withdrawal

Provident funds allow member, or their survivors, to withdraw in a lump sum the amount credited in their accounts upon the occurrence of specific social security contingencies.

Old Age and Retirement. All provident funds allow a total withdrawal of accumulated savings in event of a member attaining a specified age, most commonly 55 or over for men and 50 or over for women. Typically, retirement is not compulsory, but in seven countries retirement from covered employment qualifies for a total withdrawal. A total withdrawal in all but one instance (Chile) involves a lump-sum payment, although in eight countries the beneficiary can opt for installment or annuity payments. Only Chile requires it beneficiaries to take either installment or annuity payments.

Fiji, Western Samoa, and Chile all offer benefits that are more generous than those actuarially determined on the basis of accumulated savings. The supplementary finance for this comes from the provident fund's investment income (Fiji and Western Samoa) or a government subsidy (Chile).

Invalidity. All but three provident funds (Chile, Malaysia, and Nepal) allow a total withdrawal in the event of a member being unemployable due to a permanent incapacity. Fiji and Western Samoa permit a total withdrawal if a member becomes permanently incapacitated for covered employment. India, Kenya, and Swaziland allow a total withdrawal in the event of a permanent partial disability. Only Fiji and Western Samoa provide augmented benefits to invalids (on the same basis as for the aged).

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[6] Singapore also has a degree of progressivity in its rate structure.

Survivors. All provident funds, except in Chile, allow a total withdrawal at the death of a member. Eight provident funds also provide death grants; five countries (India, Indonesia, Nepal, Malaysia, and Western Samoa) do so on a gratis basis, while the others (Fiji, Kiribati, and the Solomon Islands) recoup part of the costs by making a modest annual deduction from members' accounts. Uganda and Zambia provide gratis funeral grants. Life insurance is provided on a gratis basis in India, Nigeria, and Singapore, whereas in Indonesia it is financed by an ear-marked employer contribution. Only in Western Samoa are survivors required to take an augmented pension, which is equal to 50 percent of the deceased's pension.

A limited supplementary pension scheme has been established by the provident fund in India, so as to provide survivors' pensions to augment the lump-sum withdrawals, which are financed by ear-marked contributions from employees, their employers, and government.

Sickness. Ghana, Montserrat, and Nigeria all allow withdrawals if a member falls sick. This payment is in the form of a flat-rate per diem payment after a waiting period but is provided for a limited period of time.

Maternity. Zambia provides a gratis lump-sum maternity benefit.

Unemployment. Eight countries provide loss-of-job benefits through their provident funds. India, Tanzania, Uganda, and Nigeria allow a total withdrawal if a member is unemployed for a specified period. Nepal and Sri Lanka allow a total withdrawal if covered employment is terminated, while Papua New Guinea allows only partial withdrawal (unless contributions are paid for 15 years). Only Ghana provides a periodic payment for unemployed provident fund members. An earnings-related benefit is paid by this provident fund to those who are involuntarily unemployed, after a waiting period and subject to a work test and a minimum contribution period requirement for up to two months. (These payments are deducted from members' accounts.)

4. Other Contingencies Permitting Withdrawal

All provident funds, except Gambia, allow total withdrawals if a member emigrates permanently, although Western Samoa specifies three years of continuous absence as a prerequisite. Some provident funds (India, Nepal, Sri Lanka, Kenya, and Tanzania) allow full or partial withdrawal if a member terminates covered employment without retiring from regular employment. Tanzania allows full withdrawal if a member decides to reside permanently in a co-operative village. Other circumstances permitting full or partial withdrawal include marriage of children or dependent siblings (India), residential property purchase (Singapore, Papua New Guinea, Fiji, Malaysia, and Zambia), savings (Zambia), share purchases (Singapore), cost of hospital care (Kenya and Singapore), and the cost of medical treatment and appliances for specified illnesses and health conditions (India).

5. Members Loan Rights

Some provident funds allow their members to borrow from their accumulated deposits. Nepal has moved quite significantly in this direction. It currently offers its members a variety of loans: "medicare loans" (up to 25 percent of deposit is available after one year's contribution, repayable over four years at 10.5 percent per annum); "contingency loans" (up to 50 percent of deposit is available to meet "contingency expenses" after four years of contributions, repayable over nine years at 11 percent per annum) "real estate loans" (up to Rs40,000 to purchase land and to construct or acquire a dwelling after five years of contributions, repayable over 25 years at 12 percent per annum); and "social obligations loans" (up to 25 percent of deposit to meet the cost of marriage, funeral, or other social obligation loans, repayable over three years at 11.5 percent interest). Fiji established an interest-free housing loan schemes for its members, requiring them to satisfy income tests before qualifying for a home loan. Ghana has adopted the novel approach of establishing a subsidiary, the Social Security Bank Ltd, to provide long-term credit facilities to members, for the acquisition of consumer durables and, interestingly, to contributing employers.

Provided the interest rate attached to the borrowed funds corresponds to what the provident fund would otherwise have earned on those funds, then members' loans do not result in any redistribution among contributors.

6. Administration

In all countries except Chile provident funds are as single, independent public agency under the general supervision of a ministry or department. In Chile the administration is undertaken by a network of pension fund management companies under public supervision.

The Social Security Impact of Provident Funds

The ILO's 1952 Social Security (Minimum Standards) Convention provides and internationally accepted set of practical goals for social security systems in developing (and developed) countries. In terms of the benchmarks contained in the 1952 convention, provident funds provide inadequate social security protection.

1. Lump-Sum Payments

The 1952 convention endorses only the use of periodic payments (expressed as either a percentage of the beneficiary's previous earnings over a particular period of time (articles 63 and 64) or an income-tested flat rate "sufficient to maintain the family of the beneficiary in health and decency" (article 65) to meet social security needs. The provision of lump-sum benefits are thus an inferior form of social security payment, because they are not determined in accordance with social security needs but rather the product of past savings. Provident funds are unable to ensure that their beneficiaries use their lump-sum payments to provide themselves with future sources of income, and they cannot guarantee that these beneficiaries do not quickly become impoverished as inflation eats away at their means of support.

The ability of provident funds to protect their members in the event of their ceasing to earn depends, then, on the efficacy of the lump-sum payment.

The extent to which lump-sum payments can provide social security protection depends on the amount of savings credited in their account, the uses to which the payments are pub, and the prevailing rate of inflation.

Low Levels of Deposits. One major dilemma confronting provident funds is the relatively low level of individual members' deposits. The balance in any member's account will be greater the higher the contribution rate, the higher the earnings to which that rate applies, the longer the contribution period (or the shorter the periods of unemployment or uncovered employment), the higher the interest periodically credited, the smaller the interim withdrawals permitted, and the smaller the proportions of contributions receivable not recorded in a member's account. Two particular issues need to be considered in this context.

Firstly, since most provident funds are relatively recent in origin, the maximum possible contribution period is such that insufficient time has elapsed to allow members to accumulate a sizable deposit. Moreover, a member's actual contribution period may be less than maximum because of periods of unemployment or uncovered employment. Secondly, if members of a provident fund are permitted to withdraw a proportion of their account balance prior to their final payment then, clearly, the result will be a smaller final payment. Thus the issue is to establish priorities among the competing claims for interim and final payments that may be granted from provident fund accounts. Most funds allow interim withdrawals to varying degrees. These provisions probably represent an attempt to give some protection to workers against selected short-run social security contingencies, or they may be justified on the basis of some other socially-desirable grounds. The opportunity cost of such interim withdrawals is, however, the reduced capacity of provident funds to protect their members in the event of a long-term cessation of their earning capacity.

The Dispersal of Lump-Sum Payments. The way in which lump-sum payments are spent determines the extent to which this form of assistance provides social security support. The principal justification for lump-sum payments is that they provide provident fund members with the wherewithal to acquire income-generating assets so as to avoid recourse to any form of public assistance. Although data on the dispersal of provident fund lump-sum payments are sparse, there is some evidence to suggest that the acquisition of an asset generating an immediate income is only one, relatively modest, use to which payments are put. Surveys, in Ghana in 1973 and Zambia in 1978, reveal that the most popular use of lump-sum payments was to pay for children's education (Mulozi 1980, p. 58; ISSA 1977, p. 11).

Inflation. The effectiveness of lump-sum payments as a social security device is affected by inflation in two ways. If inflation occurs over the contribution period then the real value of the members' deposits, including the interest periodically credited, falls. If inflation occurs after the final lump-sum payment has been made, then the real value of benefits generated by its disposal diminishes over time, which provides a clear incentive to divert the lump-sum payment to current rather than to future consumption. In both situations, inflation diminishes the capacity of lump-sum payments to provide provident fund members with social security.

Longevity. Increased life expectancy means that any lump-sum payments made by provident funds have to be used for consumption during a longer retirement period. In these circumstances lump-sum payments are less able to provide effective social security protection.

2. Periodic payments and supplementary benefits

Because lump-sum payments are not an effective means of providing social security, some provident funds offer their members the alternative of periodic payments. Although these may overcome the problems associated with the inappropriate dispersal of lump-sum payments (for social security purposes), periodic payments in the form of installments or actuarially-determined annuities do not solve the problems of low deposit levels or inflation. Augmented benefits go some of the way towards obviating the problem of low deposit levels and offer a more effective means of providing social security protection. The problem of inflation remains, however, as there is no mechanism for subsequent supplementation

In order to strengthen further the social security protection offered, some provident funds provide supplementary benefits. Of particular interest are the supplementary pension schemes established in India and the life insurance options in India, Nigeria, Singapore, and Indonesia. While there measures have further enhanced the capacity of the provident funds to provide their members with greater social security protection, by obviating the problem of low deposit levels), the problem of inflation remains unsolved. Even so, these provident funds still fall well short of the minimum standards set out in the 1952 Convention

3. Employee coverage

The 1952 Convention's minimum coverage standards are specified in three forms: not less than 20 percent of all residents; all residents with means below a particular limit; or not less than 50 percent of all employees in industrial workplaces employing 20 persons or more. While some provident funds may meet these requirements, it must be recognised that most social security protection is provided to the burgeoning urban middle class: those long-standing members who have not experienced periods of either unemployment, uncovered employment, or absence from the work force. Unquestionably the less fortunate receive less support; a product of the fact that provident funds do not engage In risk pooling.

4. Contingencies Covered

The 1952 Convention specifies a range of social security contingencies that are seldom (if at all) covered by provident funds -- namely, the short-term contingencies of sickness, unemployment, employment injury, maternity, and child rearing.[7] However, most provident funds cover contingencies not recognised by the 1952 Convention (including emigration, marriage of children or dependent siblings, residential property purchase, savings, and share purchases). This undoubtedly reduces the efficacy of provident funds as providers of social security protection.

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[7] It must be noted, of course, that most countries operating provident funds cover, to some extent at least one or more of these contingencies by other means (most commonly employer liability.

5. Distribution of Costs

The 1952 Convention requires that the cost of social security protection be met by means of contributions and/or taxes "in a manner which avoids hardship to persons of small means" (article 67). Only a minority of provident funds specify either a contribution floor or a lower contribution rate for low wage earners, so as to ensure that the payment of the prescribed employee contribution does not cause financial hardship for low-wage earners.

6. Performance Assessment

The overall conclusion must be that provident funds are not capable of providing their members with adequate social security protection when they are confronted with a loss of earning capacity or the cost of maintaining children.

The Social Impact of Provident Funds

Provident funds have a significant social impact on the countries in which they operate. They affect the quality of life of their recipients, who are able to use the lump-sum and other benefits they receive to improve their own and their family's current and future living standards. One clear illustration is the practice adopted by some provident funds (Fiji, Singapore, and Zambia) of allowing members to gain interest-free housing loans on the basis of the amount credited in their accounts. Similarly, the provision of health care (directly at no charge in Kenya, by means of a compulsory "medisave account" in Singapore, or on the basis of an interest-bearing loan as in Nepal) also promotes members' quality of life.

Provident funds also affect the distribution of income in the countries in which they operate. Their distributional impact is extremely difficult to determine, but three issues need to be highlighted. First, in countries with a progressive income tax rate structure, the distributional impact of tax-deductible employee provident fund contributions is regressive (that is, the higher the contributors' earnings, the smaller the proportion of their net (after tax) contributions to their earnings). The degree of regressivity is restricted, of course, when contribution ceilings are specified. Second, while no country taxes lump-sum benefits provided by its provident fund, at least one country (Western Samoa) allows that periodic payments may be subject to tax. In this instance, the distributional impact of the provident fund depends on the number of periodic payment recipients, their taxable incomes, and the progressivity of the income tax rate structure. Thirdly, because the expenditure of a provident fund's reserves has a positive multiplier effect throughout the economy in which it operates, it has a bewilderingly complex impact on the distribution of income. There is no way a priori of knowing whether this impact is generally progressive, neutral, or repressive (or even which segments of the community are the principal beneficiaries).

The Economic Impact of Provident Funds

Because the growth in a provident fund's revenue (contributions plus investment and other income) is usually much faster than the growth in expenditure (benefits plus administrative expenses), there is usually a rapid accumulation of reserves. This is almost inevitable for a variety of reasons. Firstly, because provident funds generally focus largely on long-term social security contingencies, contributions are collected for a considerable period before any benefits are payable. Secondly, the typical age structure in countries with provident funds is skewed towards the younger age groups, which means that the proportion of beneficiaries to contributors is low. Thirdly, Industrialization draws more people into covered employment, thus ensuring a continued growth in the number of contributors. Finally, inflation increases provident fund revenues, since contributions are tied to money wages while having no significant impact on expenditure.

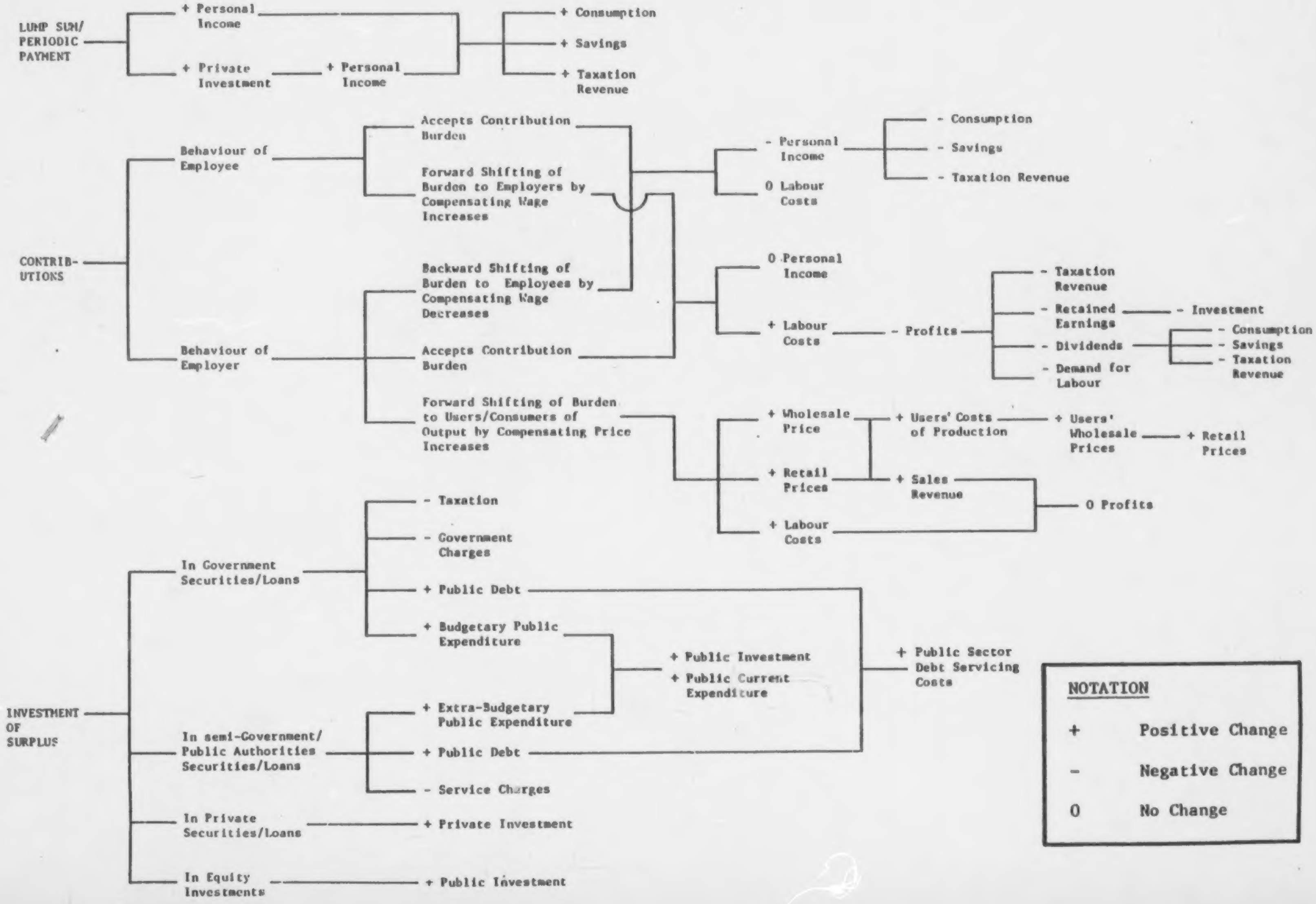
Provident funds are thus significant financial institutions in the countries in which they operate and, indeed, may well inhibit the development of other financial institutions and financial instruments in those countries (see, for example, Asher 1985). Their portfolio management policies have consequences not only for future beneficiaries, in terms of the interest periodically credited to members' deposits, but also for public debt management. The manner in which provident fund reserves are used in any country is determined by the prevailing provident fund legislation, the institutional arrangements surrounding the decision-making process, and the prevalent political attitudes towards the appropriate role of the provident fund.

Provident funds have an extremely complex impact on the economy in which they are operating (see Figure 1). In essence, they shift resources from the private sector (via contributions) to the public sector (as a result of the portfolio management practices adopted). Moreover, they do tend to generate inflationary pressures, by their differential impact on aggregate demand and aggregate supply. They also tend to promote employment, especially in the public sector. Overall, by mobilising savings and by providing a means by which such savings can be utilized by the public and/or the private sectors, provident funds have a significant impact on the allocation of resources and the economic growth of countries sponsoring them (see, for example, Asher 1985).

The Transformation of Provident Funds into Social Insurance

Provident funds do not provide adequate social protection against old-age, invalidity, and the effect of death on dependents. Because of this, attention has been given from time to time to the idea of converting provident funds into comprehensive social insurance pension systems.

Figure 1 THE MACROECONOMIC IMPACT OF PROVIDENT FUNDS


LUMP SUM/ PERIODIC PAYMENT
+ Personal Income
+ Private Investment
+ Personal Income
+ Consumption
+ Savings
+ Taxation Revenue
CONTRIB-UTIONS
Behaviour of Employee
Accepts Contribution Burden
Forward Shifting of Burden to Employers by Compensating Wage Increases
- Personal Income
0 Labour Costs
- Consumption
- Savings
- Taxation Revenue
Behaviour of Employer
Backward Shifting of Burden to Employees by Compensating Wage Decreases
Accepts Contribution Burden
Forward Shifting of Burden to Users/Consumers of Output by Compensating Price Increases
0 Personal Income
+ Labour Costs
- Profits
- Taxation Revenue
- Retained Earnings
- Investment
- Dividends
- Consumption
- Savings
- Taxation Revenue
- Demand for Labour
+ Wholesale Price
+ Users' Costs of Production
+ Users' Wholesale Prices
+ Retail Prices
+ Retail Prices
+ Sales Revenue
+ Labour Costs
0 Profits
INVESTMENT OF SURPLUS
In Government Securities/Loans
- Taxation
- Government Charges
+ Public Debt
+ Budgetary Public Expenditure
+ Public Investment
+ Public Current Expenditure
+ Public Sector Debt Servicing Costs
In semi-Government/ Public Authorities Securities/Loans
+ Extra-Budgetary Public Expenditure
+ Public Debt
- Service Charges
In Private Securities/Loans
+ Private Investment
In Equity Investments
+ Public Investment
NOTATION
+ Positive Change
- Negative Change
0 No Change

1. Obstacles to transformation

There are a variety of obstacles that inhibit the transformation of provident funds into social insurance systems (Thompson 1978, p. 191; ISSA 1975; Wadhawan 1969, p. 256; Gerig 1966, p. 40; Parrott 1968; Godfrey 1974; Fletcher 1976).

Attitude of Members. Provident funds are apparently meeting the perceived needs of their members. A survey carried out in Ghana in 1973 indicated that 76 percent of provident fund contributors questioned preferred a lump-sum final payment (ISSA 1975, p. 283). Similarly, in Kenya a survey carried out in the early 1970s indicated that 47 percent of respondents preferred a lump-sum final payment, and 29 percent preferred a combination of a lump-sum final payment and a pension. The popularity of lump-sum final payments was found, not surprisingly, to be inversely related to the respondent's age (Musiga, 1976). The preference for lump-sum final payments is also strong in Fiji and Western Samoa where the financial incentives strongly favour the augmented benefit option.

Attitude of Governments. Provident funds, once their prodigious capacity to generate a surplus becomes evident, endear themselves to governments ever eager for a ready source of development finance. Alternatives are often not understood. As Iyer (1971, p. 370) notes:

> ...Where the emphasis is placed squarely on investment (rather than current consumption) it should not be supposed that only a provident fund scheme can adequately provide the necessary surplus funds; a pension scheme (financed under the general average premium system) is capable of doing as well or perhaps even better. Incidentally, it has also been shown that a modest pension scheme may be (so) financed...with the rates of contribution currently being applied under National Provident Funds.

Much is said in a rhetorical vein about the desirability of converting provident funds into social insurance schemes, but the practical difficulties of implementation discourage action. The possible reduction in the supply of finance and the almost inevitable government subsidy inhibit all but the most adventurous from taking definite steps towards establishing a social insurance system, beyond, of course, seeking the technical advice of the International Labour Organization (Mathew 1978, appendix 11).

Administrative Constraints. Administrative structure and procedures deemed appropriate for provident funds may be incapable of administering a more complex social insurance system. Many provident funds confront serious administrative difficulties involving, in particular, the collection and crediting of contributions; the tracing of multiple and inactive accounts; the identification of beneficiaries; and the processing and dispensing of benefits (Aire 1974; Gerdes 1973; Ijeh 1977). The general capacity of many existing provident funds to administer a social insurance system, therefore, must be in some doubt.

Statistical Constraints. Whereas a provident fund requires minimal statistical data to operate, a self-financing social insurance system has an almost voracious need for data -- including, for example, mortality, morbidity, and invalidity rates, widow remarriage rates, increases in the number of insured persons, average earnings, inflation, and estimates of future interest rates (Benenson 1964). Without up-to-date and reliable data the actuarial calculations so essential to a defensible projection of social insurance revenues and expenditures are made that much more difficult, and consequently the economic viability of the system is made that much more uncertain, unless there is a guarantee of substantial injections of government resources.

2. Prerequisites for Transformation

The effective transformation of a provident fund into a social insurance system requires the following prerequisites. Firstly, that the government involved has a commitment to the social insurance principle and that it is prepared to allocate resources to facilitate an effective transformation of a provident fund into a social insurance system. Secondly, that an effective bureaucratic organization exists to administer the social insurance system. Such an organization needs to have (a) appropriate facilities for the prompt and accurate collection of contributions and payment of benefits, (b) an effective record-keeping procedure, and (c) a reliable way of locating and identifying beneficiaries -- requiring a satisfactory method of determining, for example, an individual's age, family status, and health condition. Thirdly, that adequate statistical data exist, so as to allow the appropriate actuarial calculations to be undertaken. Finally, that the prevailing economic conditions are such that a social insurance system is viable, in the sense that the contributions required to finance expected flow of benefits are not beyond the capacity of the economy to bear.

3. The Mechanics of Transformation

One of the major issues confronting a provident fund being transformed into a social insurance system is the treatment of past contributions. Three options are available. First, all past provident fund contributions can be converted to social insurance contributions. This approach was adopted in Iraq, Dominica, and St Lucia. Second, all past provident funds contributions are frozen, but still attract interest and are available to members upon the occurrence of an appropriate withdrawal contingency. This approach was adopted in the Seychelles. Third, provident fund members could be offered a choice between the above mentioned options.

Tanzania has adopted a rather different approach to transformation. Rather than transform the entire Tanzanian National Provident Fund (NPF) into a social insurance system, a more gradual strategy has been adopted. A section of NPF's membership is declared eligible to join a social insurance scheme, initially para-statal workers in 1978). The NPF withdrawal rights are frozen, but their future contributions are paid to the social insurance scheme.

The Evolution of a Social Security Hybrid

In an effort to become more effective social security institutions, some provident funds, (Chile, Fiji, and Western Samoa) have provided augmented benefits. In so doing they have transformed themselves into social security hybrids. These augmented benefits can be financed in the following ways. First, a special ear-marked contribution from employees, employers, or both can be levied, and the funds can then be directed into a (risk sharing?) pool.

Policy issues arise, of course. What is the appropriate contribution rate? Are the augmented periodic payments financed this way likely to meet desired social security objectives? If the augmented benefit approach is optional, how can it be made more attractive vis-a-vis lump-sum payments (for example, the taxing of lump-sum benefits)? Second, a government subsidy might be used to provide the needed funds. Again, policy issues arise. What specific social security objectives are being sought (for example, income replacement, income supplementation, poverty alleviation, or income redistribution)? Should augmented periodic payments be optional? What level of subsidy is appropriate? Should the benefits financed this way be taxable? What support should governments give to those who are not provident fund members? Third, investment income can be directed, in part, into a special account for the purpose of funding augmented periodic payments. The policy issues here may include: What proportion of investment income should be used for this purpose? (The larger the proportion the smaller the interest that can be credited to members accounts.) Is it equitable for future lump-sum recipients to forego interest on the deposits in their accounts in order to provide current periodic payment recipients with an augmented benefit? What happens if investment income falls such that the expectations of periodic payment recipients cannot be met without significantly reducing the interest payable on members' deposits?

Conclusion

Provident funds seek to provide their members with basic protection in the form of lump-sum withdrawals from their accumulated deposits upon the occurrence of specific contingencies. Their capacity to provide adequate social security protection is generally constrained: (a) by the relatively low level of their individual members' deposits, (b) by their inability to ensure that lump-sum payments are used to provide long-term social security protection, and (c) by their inability to provide their members with a hedge against inflation. Many provident funds are aware of these inadequacies and have sought to remedy them by means of supplementary benefits and, more radically, by offering augmented benefits. None, however, has found the solution to the fundamental dilemma that makes them ineffective social security institutions -- namely, how to provide adequate social security protection on the basis of compulsory savings. In their present form provident funds are, however, popular nol only with their members but also with their sponsoring governments.

Employees see them as compulsory saving schemes accumulating "their" savings which should be readily accessible. In no other social security strategy is there scope for contributors to claim proprietary rights over their (and their employers') contributions. It brings into focus, of course, the libertarian principle that individuals are the best judges of their own well-being. It also raises ethical issues about whether "social security," as defined above, is too narrow a concept and thus whether it should be broadened to include "quality of life" dimensions. It could be argued that unless the concept of social security is so broadened, it will always remain a peripheral concept in the Third World.

Employers see provident funds as the means by which their moral obligation for the welfare of their employees is fulfilled at a known cost. Governments see them as self-help vehicles for the provision of basic social protection and as a readily available source of cheap funds for socio-economic development.

Provident funds mobilize savings, which make them significant financial and social institutions in the countries in which they operate. Indeed, provident funds are expected to be more than a social security institution. The juxtaposition of economic, social and social security objectives has made provident funds generally resilient to fundamental changes and has resulted in the evolution of a social security hybrid which is neither a pure provident fund nor a social insurance scheme. The social security objectives in these circumstances might well become increasingly subservient to the economic ones, to the detriment of provident fund members.

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SOCIAL SECURITY AND SUPPORT OF THE ELDERLY: THE WESTERN EXPERIENCE

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The mandate I have been given in this paper is to report on the pros and cons of social security systems as a vehicle for providing income support for the elderly. It is impossible to make such an assessment without reference to a particular historical and social context, and my comments will focus largely on the "pros" and "cons" of social security in the post-war capitalist democracies of Western Europe and North America. This means, of course, that the "pros" and "cons" may be quite different when considered in the context of other political and economic systems.

Income security for the elderly has become the subject of considerable controversy during the past decade. This is a major change from the fifties and sixties when these programs were expanding. Following World War II, the rapid growth of old age security entitlements was widely hailed as a necessary, indeed inevitable, consequence of industrialization and economic growth. Industrialization, it was thought, had simultaneously made the labor of older workers redundant and provided the wealth to make it unnecessary.

Though public old age security programs continue to enjoy great popularity among Western publics (Coughlin, 1979), business and political elites have become less sanguine about the long-term viability of these programs. It is widely recognized that it is extremely difficult to provide income security to the elderly other than through state-organized social insurance programs. But it is no longer clear that such programs are compatible with sustained economic growth and the maintenance of social harmony. There is no clear consensus on these issues and no definitive evidence that would permit adjudication of the debates this lack of consensus has generated. But in comparison to the fifties and sixties when the neo-Keynesian consensus led many Western observers to talk about "the end of ideology," debates over the relative merits of social security have become very ideological indeed.

In the first part of the paper I identify what is meant by social security by contrasting postwar income security programs with an earlier social assistance tradition. Secondly, I review some fairly conventional explanations of why real income security for the majority of workers requires centralized state administration. In the final sections I discuss the economic, social and political trade-offs frequently imputed to such an arrangement.

Social Assistance, Social Security and Private Pensions

Only in the United States is the term "social security" used almost exclusively to refer to income security programs for the elderly. Elsewhere, it is used in a much more generic sense to refer to the entire set of modern welfare state programs that protect workers against a wide range of labor market risks. This is not merely a peculiar semantic practice of Americans, however. In a very real way it captures a distinctive feature of the American welfare state. Quite rightly, Americans make a sharp distinction between social (or public) assistance and social security. The former refers to income maintenance programs directed exclusively or primarily at the "poor," those whose incomes are judged to be inadequate for subsistence. The latter refers to income maintenance programs intended not merely to prevent poverty but rather to allow individuals and families to maintain continuity of living standards in the event of labor market exits through unemployment, illness or retirement. The natural constituency of social security as opposed to social assistance programs is not the poor but rather the vast majority of wage-earners. What distinguishes the American welfare state from the more typical European welfare state is the extent to which its core social programs continue to be directed at the poor. Old age security is the exception in the United States, an income maintenance program that incorporates a majority of wage-earners.

American practice in this area, however, alerts us to the important distinction that must be made between these two forms of social provision. Prior to World War II, state initiatives in the area of income support for the elderly were generally in the social assistance tradition (Perrin, 1969). Benefits provided were low, often means-tested or were restricted to those groups in society (e.g., industrial workers) considered to be subject to a high risk of falling into poverty. Their purpose was not to induce or permit elderly workers to withdraw from economic activity but instead to provide a modest supplement to compensate for the declining incomes of aging workers.

After World War II, income programs for the elderly began to undergo a major transformation. Instead of providing subsistence benefits for those aged persons who fell into poverty, they gradually acquired the character of a "retirement wage," an income entitlement intended to replace market wages and allow the elderly worker to withdraw from economic activity. As Perrin (1969) documents, this involved the adoption of two rather novel principles of distribution. The first was the principle of universality: coverage was extended to include all wage-earners and, eventually, the self-employed. The second was the principle of substitutive benefits -- benefits that would replace the market wage and allow workers to maintain a continuity of living standards after retirement. The result is that the adequacy of old age entitlement systems in the West is now evaluated against two criteria. The first of these is the social assistance criterion -- the extent to which old age entitlements protect the elderly against destitution or poverty; the second is the income security or income replacement criterion -- the extent to which public entitlements replace market wages after retirement.

Such a distinction, of course, only becomes historically meaningful when the earnings of the "average" worker rise significantly above subsistence level. So long as typical earnings are at or near subsistence levels the two criteria are analytically but not empirically separable. This explains why in the early phases in the development of industrial capitalism even state provision of social assistance was a politically contentious issue. In a low-wage economy even subsistence level benefits provide workers with an alternative to market wages and thus are a threat to the formation of labor markets (Polanyi, 1944).

With the growth in real wages, however, the role of the state in providing benefits in the social assistance tradition has become less contentious. There is always debate about how high these benefits should be; but there is little argument over the fact that the state, rather than market institutions, should assume responsibility for this task.[1] Instead, debates over the merits and disadvantages of state provision for the elderly have focussed almost entirely on the income security component of these programs. The point is not that these debates are of no relevance to a discussion of public social assistance for the elderly. In a low wage economy, as we have seen, subsistence benefits and poor relief for the elderly also represent income security for the elderly. Rather, the point is that it is the income security function of these programs that has made them politically and socially divisive issues in the West.

It is useful to think of the debates over the merits and disadvantages of social security as forming a decision-tree. At each branch of the tree, new issues emerge. The first branch of the tree requires a decision as to whether some form of collective provision for old age is necessary at all or whether individual thrift and private savings should be the major instrument for providing income security in old age. The second point in the decision tree is whether collective solutions should be compulsory or voluntary. Once it is decided to adopt a compulsory model, the next issue concerns the form it should take. Should the program be "nationalized" and centrally-administered by the state or left to local occupational groups, industries or firms to administer? The remarkable fact is that despite national differences in social structure and political ideology, this decision-making process has led to virtually identical results in all Western societies. In all of these countries, state administered income security programs are now the major source of income for the majority of the elderly.

Debates over the pros and cons of such a system typically adopt as the point of comparison "private" occupational pensions --administered usually, but not always, by employers. It is useful to begin then by considering the debates about social security as equivalent to the debates that emerge over the relative merits of any "nationalized" industry. These include evaluations of the effectiveness ("product quality") and efficiency of public versus private sector alternatives, as well as the economic and social side-effects of "public ownership." I shall discuss these issues in the following section entitled "pensions as income security." This discussion, however, is based on the assumption that we are simply comparing equivalent products: whether the state is able to offer a better product -- income security in old age -- at a lower price. While debates over social security are often conducted in this fashion, this perspective overlooks the fact that the field of social security during the past hundred years, and especially since World War II, has been the terrain of a much more fundamental debate over social rights (Marshall, 1964). I shall discuss these issues in the sequel entitled "pensions and social rights."

Pensions and Income Security

Liberal social thought (Rimlinger, 1971) traditionally emphasized the importance of self-help and self-reliance with respect to old age. As a result, poverty in old age was often considered to be an indication of moral failure -- the absence of thrift and self-denial during youth and middle age. For the community to come to the aid of such persons would only encourage this behavior. In a low wage economy, where current income was barely sufficient to meet immediate consumption requirements, this was clearly an unrealistic expectation. But even in a high wage economy, where some degree of personal saving might be considered normal, the principle of self-reliance poses difficulties, especially where "old age" represents an ever larger portion of the economic life cycle. As Schulz points out (1985: 74), the typical worker would be required to save 20 per cent of current income each and every year in order to provide income security in old age. And even were this socially possible, the prudent individual is also faced with the uncertainty of future events in planning for old age (Schulz, 1985: 71-72).

As a result, it has long been considered normal for prudent individuals to deal with this uncertainty by pooling risks in insurance programs. Private insurance is a means of providing collective income security to individuals in a commodity form; it can be bought and sold at market prices like any other good or service. Nor does insurance violate notions of thrift and self-reliance, since the security provided is proportional to the contributions made.

However, the insurance principle does set in motion one of the elements that leads to the emergence of public old age security programs. This is the fact that the effective cost of income security is a function of the size of the insured group. The larger the group, the less likely is an actuarial failure of the insurance program that may result from an imbalance between contributors and beneficiaries. Early efforts by workers to secure themselves against the risks of disability and old age through union-sponsored insurance schemes (e.g., the British friendly societies) often floundered during periods of high unemployment or as a result of technological change that eroded the membership base. Plans organized at the level of the firm or industry encounter similar problems with the result that the income security system breaks down.

Even where it is able to solve the problems of individuals, however, voluntary insurance is unable to solve the social problem of providing for the vast majority who do not participate.[2] The result is that participation in pension plans -- whether public or private -- is now generally on a compulsory basis. This is for economic as well as social reasons. The actuarial soundness of a plan is difficult to establish if future participation rates are uncertain and subject to large variation. Despite the obvious violation of traditional liberal principles it represents, compulsory participation in both state-sponsored and employer-sponsored pension schemes is now rarely questioned. Rather, debate has focused on the relative merits of centralized, state-administered pension schemes versus private employer-sponsored schemes.

Coverage

Historically, the main advantage of social security is quite simple: without it, there would be no income security for the majority of elderly. Since the turn of the century and especially since World War II, there has been continued expansion of employer-sponsored schemes. But they have generally been both too selective and too unreliable to support the majority of the aged. In the absence of state intervention, private sector plans tend to stop far short of universal coverage of the work force. This problem has been particularly severe in Canada and the United States. Those not covered tend to be in small, labor intensive enterprises in which wage costs represent a high proportion of total production costs and where the costs of marketing and administering pension plans are high. The result is that those not covered are often low-wage workers who also face the greatest risk of poverty in old age.

The demand for governments to intervene in this situation is similar to other areas where governments respond to "market failure." Several options are open short of nationalization, however. The first is to provide incentives to the market. This has been done by making contributions to employer-sponsored pensions or individual retirement savings plans tax-deductible. Both means have been widely used in Canada and the United States at enormous public cost (the result of foregone tax revenues). But because tax deductions disproportionately benefit high income earners, it is among the better paid that growth has taken place. Well over half the work force in both countries remain uncovered by these subsidized private sector alternatives.

The second alternative is state regulation; employers may be compelled to establish pension plans that meet criteria set by the state (mandated pensions). A version of this approach is practiced in the United Kingdom. There, employers may opt out of the public system so long as they provide an equivalent program. This solution, however, immediately raises two issues. The first is that of efficiency, i.e., the higher costs of administering a decentralized system. The second is that of effectiveness or "product quality." The British experience suggests that to provide the degree of income security available from national social security programs requires enormous subsidies from the state to the private sector (O'Higgins,1985).

Efficiency

An obvious benefit of a centralized old age insurance program is the potential to realize economies of scale. In view of the routine nature of administering such a program, a large state monopoly will almost always be cheaper than a decentralized system organized on the basis of firms or industries.[3] The administrative costs of a decentralized system are especially onerous on small employers. Considerations of efficiency, moreover, are not limited to the immediate costs at the level of the firm since some system of coordination is still required to permit transfer of entitlements when workers lose or change jobs.

To realize these economies of scale, however, presumes the presence of a bureaucratic infrastructure capable of collecting revenues and of calculating and disbursing benefits within a defined geographic area. It is no accident that the first state programs for the elderly began in Germany, a country with a highly developed state bureaucracy. Bureaucratic capacity was also an important factor determining the type of plan that could be adopted (Heclo, 1974; Orloff, 1985). Administration of a program in which benefits are linked to contributions, for example, requires greater bureaucratic capacity than the universal flat benefit programs adopted in many countries after World War II. And, indeed, bureaucratic capacity was sometimes a major reason for this practice (Bryden, 1974).

Effectiveness

The preference of employees and labor unions for a national social security system can also be understood in terms of historical differences in the quality of public pensions over private sector alternatives. Private pensions were often seen by employers as a form of labor control and used as a means to reduce labor turnover. As a result, private sector entitlements are typically not "vested" until the employee has met the stipulated number of years of service. This means that workers who change jobs frequently or experience an interrupted work history may have few or no benefits on retirement. Similarly, the absence of "portability" arrangements has meant that many employees are unable to transfer entitlements when they change employers. In contrast, national social security systems provide complete portability and immediate vesting.

A pension entitlement is essentially a "deferred wage," a promise by the employer or the state to provide a flow of income at some point in the future. A critical feature of any pension program, then, is the degree of certainty that what is promised will actually be forthcoming. A major factor that led to the expansion of state systems after World War II was the demonstrated incapacity of private sector plans to deal with the disruption and economic failure associated with war, depression and massive inflation. Only the state, with its power to tax and reallocate costs and benefits, was capable of responding to such a situation.

This response to the experience of the Great Depression and World War II simply serves to highlight a more general principle: in the end, the capacity to ensure income security rests on the power to tax and redistribute. Throughout the postwar period this was demonstrated by the inability of private pensions to prevent the erosion of entitlements that results from inflation. Inflation essentially redistributes real wealth within the economy. Unless the enterprise itself is the beneficiary of this process it is unable to compensate the plan members for the income lost in this fashion.[4] Only the state, with its power to tax, is able to recapture the wealth lost through inflation and redistribute it by indexing benefits. In Britain, for example, it is the state that provides insurance against inflation, irrespective of whether the employer has opted in or out of the public sector program.

Flexibility

The major weakness of a universal, centralized social security program is its lack of flexibility. Rules of participation, eligibility and benefit levels tend to be standardized across large populations that may be quite heterogeneous. Workers in dangerous and physically demanding occupations (e.g., miners) tend to face different risks as they age than workers in more sedentary occupations (e.g., office workers). The "trade-off" associated with pooling risks over large, heterogeneous populations comes from the fact that protection tends to be normed against the average risk. The result is that some groups receive less protection and others more than required by their situation. The trade-off, of course, is directly proportional to the heterogeneity of the population being served.

Standardization of costs and benefits across heterogeneous populations may also result in non-random forms of redistribution. It is inevitable in any pension program that there will be redistribution from those groups with shorter life expectancy to those with longer life expectancy. This may result, for example, in transfers from low income groups with shorter life expectancies to high income groups with longer life expectancies. It is possible for a public system to compensate for this by providing low income groups with higher implicit rates of return on their contributions (and most do), but it is unlikely that all differences can be dealt with in this way. But neither is it always socially desirable to do so. A case in point are gender differences in life expectancy. Other things being equal, women in most Western countries receive higher returns on contributions than men because of greater life expectancy and, in many countries, a lower age of eligibility for benefits. The private market has tended to reflect these differences by providing women with lower annual annuities then men under the assumption they would be receiving them for a longer period of time. The result is less income security for elderly women.

The fact that it is difficult for a centralized state-administered program to provide the flexibility required to the needs of a heterogeneous population explains the minor role that private plans continue to play even where the public sector system is highly developed (e.g., Sweden). Nevertheless, it remains the case that the core of all income security systems in the West are centralized state programs. When one examines the history of income security there is no great mystery to this fact. Historically, private sector alternatives were slow to develop and, where they did, provided benefit provisions of inferior quality. I will return to this topic and consider some of the reasons for this in the conclusion.

The preceding discussion of income security suffers from two limitations. First, many of the debates on this subject have less to do with the actual income security provided to the elderly than with the economic and political side effects or "externalities" of these programs. Secondly, we have been discussing different systems as though we were comparing equivalent products; the state, as it were, is simply able to offer a better product -- income security in old age -- at a lower price. While debates over social security are often conducted in this fashion, this perspective overlooks the fact that the field of social security during the past hundred years, and especially since World War II, has been the terrain of a much more fundamental debate over social rights (Marshall, 1964). Once we scratch beneath the surface, we find that the issue is not merely one of comparing equivalent commodities but rather of two alternative forms of social organization.

Pensions and Social Rights

As Marshall (1964) pointed out in his seminal essay, the development of social security in the capitalist democracies has been inextricably linked to the development of citizenship --rights and entitlements that attach to persons by virtue of their membership in a national community rather than to their property, status or market capacity. In the twentieth century social rights of protection against economic insecurity were added to civil rights (e.g., freedom of speech and equality before the courts) and the political rights of voting and participation in the exercise of power. All three were formalized in the United Nations declaration of Human Rights in 1948. Macpherson (1985:23) observes that there are both historical and logical differences between the three types of rights. The struggle for political and civil rights dates back to the seventeenth and eighteenth centuries and was the main objective of the English, American and French revolutions of those centuries. Social rights are of much more recent origin. Logically, they differ as well. As observed by Macpherson (1985:23):

> The civil rights are chiefly rights against the state, that is, claims for individual freedoms which the state cannot invade. The political rights are rights to a voice in the control of the state. The economic and social rights are claims for benefits to be provided by the state, both by legislation and by positive provision of services and income supplements.

Both the nature and importance of the emergence of social rights have to be understood against the backdrop of the emergent capitalist order in which they developed. As Marshall (and many others) observed, there is an inherent tension between a system of allocation based on market capacity and one based on principles of citizenship. The tensions are both economic and political. The economic tension is usually expressed in terms of the trade-off between efficiency and welfare; allocation on the basis of social and political criteria distorts market relationships and, it is argued, results in less wealth and a lower standard of living for all. The political tension emerges from the trade-off between welfare and equity; distribution based on social rights requires the redistribution of primary incomes generated by the market. As a result, some get more and some get less in benefits than what they have contributed to social programs. This in turn opens the door to social conflicts between those who win and those who lose in this process.

In the West, these trade-offs have a particular coloration, since conceptions of efficiency and equity are given their content by the social relations of market capitalism. The principle of equity is violated in a capitalist society when owners are deprived of the full market rate of return on their capital in order to finance redistributive social programs. This is because they are not being rewarded in proportion to their contribution to the capitalist production process. More generally, redistribution of primary incomes or accumulated wealth of any sort violates the primary right that serves as the basis of capitalism, namely the property right.

But as Marx observed, the problem of redistribution does not disappear under socialism. In socialism, distribution would be based on the principle of "from each according to his abilities, to each according to his work." Only in communism would distribution be on the basis of need. So long as societies are organized around the maximization of production, the tension between social rights and considerations of equity and efficiency remains.

The Trade-off between Welfare and Equity

The language of "social rights" and "social citizenship" is most closely associated with post-war reforms in Britain and the principles of Lord Beveridge. Prior to the war, benefits for the elderly were in the social assistance tradition. Subject to a means test, they identified the beneficiary as being among the "poor," stigmatized and set apart from the rest of civil society. The major thrust of post-war reforms in Britain, Canada and other countries in this tradition was to abolish the means test and make benefits a right of citizenship. The intent was to remove invidious distinctions among the poor and non-poor and to build social solidarity. The state, as it were, would refuse to acknowledge distinctions of class and status created by the market. This had the seemingly anomalous effect of providing state benefits of equal value to the wealthy as well as to the poor. This was justified in terms of a system of taxation and financing that made such programs redistributive; all received equal benefits, but those with higher incomes paid a higher proportion of the total costs. The result, however, was that social assistance to the poor elderly was integrated into a system of income security for the non-poor. The principle of universality meant that all citizens now acquired income entitlements that were independent of market capacity.

Benefits provided in this way, however, were typically at subsistence levels. For the average worker, withdrawal from the labor market still meant a sharp drop in living standards. As a result most programs that began with the flat-benefit system added a second tier of earnings-related benefits that did mirror market inequalities. This was also necessary to maintain solidarity among workers. Where public sector benefits failed to meet the needs of better paid workers, their support for the system tended to erode. The consequence was a hybrid system of citizen entitlements and "earned" benefits.

A similar result was reached in countries such as the United States that began with earnings-related social insurance programs. Financing and benefit formulas made such programs generally redistributive between income groups. Adjustments were also made to take account of individual needs such as the presence of dependents. Over time there was progressive erosion of the link between contributions and entitlements (Derthick, 1979). Though the amount of redistribution between income groups varies enormously among countries, all systems violate traditional notions of market equity ("to each according to his contributions") to satisfy principles of income adequacy and need.[5]

Historically, all social security systems have also required redistribution between generations. This occurred for several reasons. In the start-up phase, most systems began to pay benefits long before individuals had time to make the contributions the market would recognize as necessary to finance these benefits. Secondly, as programs matured, ad hoc improvements were applied to current beneficiaries as well as to those still in the labor force. Finally, because most systems are financed on a "pay-as-you-go" basis (benefits are paid out of current revenues), there is a tendency for transfers to be made from small age cohorts to large age cohorts.

It is important to point out, however, that it is extremely difficult to determine the net effect of these transfers. The redistributive effects of social security may be negated by other programs that redistribute in favor of the rich (e.g., tax deductions on retirement savings programs and contributions to private plans). Intergenerational transfers between small and large age cohorts may take place within the program itself, but at the level of the economy as a whole, small age cohorts will be net beneficiaries of the intergenerational transfer system (Easterlin, 1980). Nonetheless, in terms of usual market-based accounting practices, these programs do produce transfers between income groups and generations that violate market conceptions of equity. This in turn has generated concern over the political viability of such programs and their effects on social solidarity.

In recent years, conservative critics of social security have given enormous attention to the long term effects on social solidarity that may result from intergenerational transfers. They decry the "windfall profits" received by the first generation of beneficiaries as being unfair. More important, however, has been their concern over the disruptive effects of intergenerational transfers that might occur in the future as a result of population aging. As the populations of the Western countries age, contribution rates will rise significantly, and it is thought this will lead to resistance and revolt by the young. Some have gone so far as to predict an "intergenerational class struggle" (Davis and van der Oever, 1981). My own view is that these claims are at best highly exaggerated. The empirical evidence from countries that are already quite old by demographic standards (e.g., Austria and Sweden) gives no support to such claims. There are good reasons, both economic and social, for solidarity between generations, not least of which is the greater economic capacity of small cohorts to finance benefits for the elderly.

Ironically, the chief concern of social democrats and left-wing reformers who have been in the forefront of social security development is over the effects of transfers between income groups. For social democratic and labor parties, redistribution through social security was important as a means of enhancing solidarity among workers. The intent was to strengthen the economic position of the weakest workers who are otherwise likely to underbid wages, serve as strikebreakers and otherwise create divisions and rivalries within the working class. Social security also provided a means of bypassing the market to achieve wage demands. To do this, however, required winning parliamentary power through the electoral process, and this in turn required cross-class alliances to achieve parliamentary majorities. The most advanced welfare states (e.g., the Nordic countries) were built upon broad cross-class alliances between the traditional working class and the emergent "middle classes" of postwar Europe. Enhanced social security was both an objective and a means of sustaining these alliances.

To sustain these alliances, however, requires a "luxurious," and hence costly, welfare state. Benefits and services must be of high quality to satisfy average and above average wage earners and thereby retain their support. As Titmuss noted in Britain, flat benefit pensions established at subsistence levels simply encouraged better-off workers to pursue private occupational plans that reinforced market inequalities at state expense. And once they had satisfied their needs through private means, they were less likely to lend their support to political struggles designed to enhance public sector entitlements.

But to finance improved benefits for all requires increasing contribution rates. This has two results. First, as contribution rates increase, redistribution declines. Even a system financed out of a progressive tax schedule reaches a limit beyond which redistribution becomes impossible. As marginal tax rates on middle income earners increase, the taxation of high incomes reverts towards proportionality.[6] Second, as the tax burden on average earners begins to approach or exceed the benefits they receive, their support for social spending can potentially erode and, with it, the alliance on which support for social security depends. Thus, the equality-equity dilemma emerges in a different guise and once again threatens to erode social solidarity. Social security, in other words, is a two-edged sword. It may provide the source of cohesion and solidarity among wage-earners; it also has the potential to generate status and equity conflicts that divide workers (Esping-Andersen, 1985).

But here too fears of a tax-welfare revolt among the middle classes appear to have exceeded the reality. The tax-welfare revolts of the seventies were generally limited to a few countries and directed against welfare state regimes in which high taxes (that were also highly visible) were combined with the provision of inferior benefits and services. And nowhere was this hostility directed at old age security programs. These have remained universally popular in the Western countries (Coughlin, 1979), and western politicians have learned that to attack them is to court electoral defeat.

The reason welfare-equity trade-offs have not generated more conflict is that at the level of the economy as a whole neither old age security nor the welfare state in general have greatly altered the final distribution of income. Countries with more developed welfare states have more equal income distributions, but this is because welfare state expansion is easier to achieve where inequality is low. The main function of social policy in the postwar capitalist democracies has been to provide income security. And income security only requires a great deal of redistribution when there is a great deal of inequality in the distribution of primary incomes.

The fact that social security has failed to substantially alter the final distribution of income when examined over time, however, does not imply that nothing has been accomplished. What social security does achieve is to stabilize income flows over the life cycle -- to mitigate the effects of unemployment, illness and old age.[7] And the marginal utility of this stabilization is obviously greater for low wage earners. Every dollar lost through unemployment, illness or retirement has a more serious impact on low wage earners than on high wage earners. In the past, retirement from productive activity in advance of physiological decline was a privilege of wealth; today it is the normal condition of the elderly.

Moreover, making income security universally available has radically altered the nature of market capitalism. The corollary of the preceding discussion is that although total life-time incomes of most workers remain closely tied to their market capacity, this is not the case at any given point in time. Income security means that the pattern of income flows over the life cycle are made partially independent of market forces. In Marxian terms, labor power is decommodified (Esping-Andersen, 1985; Offe, 1984, 1985). From this fact emerge the debates over the trade-offs between welfare and efficiency.

Politics Against Markets: Welfare and Efficiency

Irrespective of whether social security provides better security at lower cost, the end result of the expansion of social security is the same -- the expansion of state control over distribution. Just how this is regarded depends on one's view of the state. In classical liberal thought, the only economic function of the state was to protect property rights. In the neo-liberal consensus that emerged after World War II, the state was given a much broader mandate to manage aggregate demand, and this included programs that might reorganize the distribution of primary incomes in order to achieve full employment and sustained economic growth.

Similar shifts in thought were evident within the political parties and unions representing the working class. Bismarck's reforms in nineteenth century Germany were condemned by socialists as a mechanism of the bourgeois state to coopt the working class. In the decades after World War II many socialists and labor leaders came to view the state as a means of bypassing the market and its matrix of power structured around property relations. For a time, classical debates over the trade-off between welfare and efficiency gave way to a new consensus about welfare-enhanced market efficiency. Private ownership of the means of production could be combined with increasing socialization of consumption to the mutual advantage of both.

With the apparent failure of Keynesian demand-management strategies in the mid-seventies, analysts of both left and right began to rediscover the inherent strains between welfare and efficiency. Moreover, there was considerable agreement between them over the symptoms if not over the causes and solutions to the problem. I shall not attempt here to review all of these issues or to adjudicate among contending points of view. Rather, I shall merely highlight some of the major claims advanced with respect to the incompatibilities between a universal system of income security and market efficiency.

1. Income Security Restricts And Distorts Capital Markets.

Many claims have been advanced about the effects of social security on the rate of savings, the incentive to invest, and the structure of investment. During the past decade, for example, there has been a heated, if inconclusive, debate in the United States over the effect of social security on the rate of savings (see Aaron, 1982). It was argued that because social security in the United States is financed on a pay-as-you-go basis, it provides a form of pseudo-savings that depresses the savings rate. Though the results of this debate were inconclusive, it is doubtlessly the case that the savings rate in pay-as-you-go systems is lower than it would be if the plan were funded as in Sweden and Canada. Funded social security systems, however, lead to a transfer of economic power from the private sector to the state. For conservative critics, this compounds the problem of state control, since there is no assurance the state will allocate this capital in ways that enhance market efficiency; funds may be invested for social and political reasons rather than return and risk considerations (Economic Council of Canada, 1979: 61-63).

At a more general level, it is argued that the institutionalization of income security rights has resulted in what conservative analysts refer to as "democratic overload" and left analysts describe as a "crisis of legitimation." By this they mean that the establishment of income entitlements as social rights imposes an enormous fiscal constraint on the state budget and the economy as a whole. Social security programs enjoy enormous popular support and once established are very difficult to dismantle or alter. As the costs of these programs expand, they may put increasing pressure on capital markets and drive up interest rates. In effect, once they are established as rights, income security programs impose a new constraint on the future allocation of the social surplus.

Private sector alternatives pose other difficulties, however. Private pension funds have become a major vehicle of capital formation in countries such as Britain, Canada and the United States. Two fears have been expressed about this fact. First, concern is expressed about the concentration of economic power in the hands of a few, large pension investment institutions. Secondly, because of the income security objectives of these funds, there is a tendency for them to be invested in conservative portfolios, starving the market of needed venture capital.

2. Income Security Restricts and Distorts Labor Markets.

By definition, income security is intended to allow individuals to exit from the labor market without a drastic reduction in their standard of living. In effect, the welfare state provides a means of control over the labor supply that is not given in nature. Unlike other commodities whose supply is determined by their expected saleability, the supply of labor power is "determined by non-strategic demographic processes and the institutional rules of human reproductive activity" (Offe, 1985:16). Institutionalized systems of income security change all this. Whoever controls the rules of exit from the labor market and entry into the income security net also controls the size and composition of the labor force. And because of the relation between supply and price, control over the income security system may also provide indirect control over wage rates.

This capacity to control the labor supply may be used to enhance market efficiency by providing a means to absorb redundant workers or surplus labor (O'Connor, 1973). Lowering the age of eligibility for old age security has frequently been used as a means for dealing with rising unemployment and clearing the market of older, less efficient workers (Graebner, 1980). But because of the institutional separation between state and economy in the West, these same powers may be used in ways that are independent of market considerations or to deliberately alter the balance of power between market actors.

Conservative critics prefer to talk about these consequences in terms of "work disincentives"; the left speaks of altering the balance of class power between capital and labor and of reducing the compulsion for workers to sell their labor to any employer at any price. But irrespective of their linguistic and political differences, both have implicated social security in the serious economic problems faced by the developed capitalist democracies in the past decade. Income security, it is argued, produces a wage pressure - profit squeeze reflected in rising inflation, declining productivity, an erosion of investment incentives, the transfer of production to low wage countries and growing structural deficits inside the state. To conservatives, the implication of this is to reduce the role of the state and restore "market discipline." For the left, it indicates the necessity of extending democratic control to the spheres of investment and production.

Needless to say, cause-effect relations on these matters are difficult to establish. But whereas welfare-equity trade-offs have so far had limited effect, debates over welfare-efficiency trade-offs have been at the core of political debates and political struggles during the past decade. The reasons for this are not difficult to fathom in my view. Despite the uncertainty about the actual effects of social security on macroeconomic performance, it is clear that the expansion of social security entitlements has greatly expanded the role of the state not only in the distribution of wealth but also in its production. Decisions about old age security are also decisions about wage rates, capital markets and investment. And because of the institutional separation of power between state and economy in the West, it is always possible (though never necessary) that decisions taken by politicians and state managers will be incompatible with those taken by the owners and managers of private capital. And even when this is not the case, there is a long-standing tradition among the Western business class to assign the blame for their own failures to the activities of the state. It is hardly surprising that this antipathy toward state involvement has been exacerbated as a result of a very difficult decade in the history of Western capitalism. It is useful, however, to put the antipathy towards income security in some perspective.

The main function of social security is to stabilize the flow of income to workers over the economic life cycle. The Keynesian justification for this practice was that it would also help to stabilize the flow of profits for corporations over the business cycle. In sum, income security for workers was part of a larger package of economic stabilization for the economy as a whole, a social compromise between labor and capital that would benefit both (Piore and Sabel, 1984). The failure of Keynesian demand-management strategies in the seventies and eighties, however, suggested the bargain was skewed in favor of labor. With indexed pensions and other entitlements guaranteed by the state, the future incomes of today's workers were assured, but the future of corporate profits was not. The result has been a widespread effort to restore "market discipline" by dismantling or cutting back on social entitlements. In the area of old age security this means encouraging the expansion of private sector pensions and retirement savings plans. This ties the future incomes of today's workers to the performance of the market rather than to their status as citizens.

Classical capitalism as described by Marx is a system of production in which those who control wealth must be induced to contribute to the production process by the promise of riches and those who contribute labor by the threat of poverty. The difference between capital and labor is that while those who hold capital can subsist even when they fail to contribute to production (i.e., invest), labor cannot subsist when it withholds labor power. The welfare state, including social security, changes this by allowing people to withdraw from productive activity. As the welfare state expands, labor, like capital, must increasingly be induced to participate by the carrot of riches rather than the stick of poverty. Whether this "modified capitalism" is a viable form of economic organization in the long term is now the subject of heated debate and political confrontation in the West. As Marshall anticipated, it may well be that postwar "welfare capitalism" was but a temporary respite in the ongoing war between citizenship and social class. He warned: "This phase will not continue indefinitely. It may be that some of the conflicts within our social system are becoming too sharp to achieve its purpose much longer" (Marshall, 1964:134).

Conclusion

I have tried to show how debates over the pros and cons of social security in the West have developed at several levels of analysis. The first is the administrative-technical level: Assuming that we wish to ensure an adequate standard of living for non-working elders, how can this objective be achieved with the greatest efficiency and effectiveness? At this level, I have suggested that the Western preference for centralized state-administered old age security schemes is quite simple; without such provision, income security for the elderly on a mass scale would not have become available.

It is not clear that there is any logical necessity to this fact. It is possible to imagine an economy -- even a market economy -- in which a decentralized insurance scheme organized either by workers or employers could provide equal security at a low cost. But this imagined society would be one that was socially and economically static; one where there was little change in the structure of the economy over time, limited labor mobility and a stable demographic profile. The reason for this is that providing income security essentially reduces to the removal of uncertainty about future events. This is relatively easy for firms and industries whose position in the economy as a whole changes relatively slowly and in a predictable fashion, where workers remain in the same industry or firm throughout their lifetimes, and where there are no sudden changes in the ratio of workers to retirees. In a changing economy that produces "winners" and "losers" among firms and industries and where labor mobility is high, it is extremely difficult to provide income security at this level of the social structure. Indeed, imposing responsibility for income security on individual enterprises or industries may impede economic adjustment and act as a fetter on social change.

In the West, we have also seen that social security poses a problem for socio-political reasons. Income security can potentially alter capital-labor relations and set up a conflict between citizenship rights and property rights. Where the property right has been totally or partially abandoned, we would not expect to observe identical conflicts but similar tensions may emerge in a different guise. To provide income security on a mass scale imposes a constraint on the future allocation of the social surplus. The wealth allocated in this way is fixed in advance and is simply not available either for investments or incentives that might otherwise enhance productivity. This is but one expression of a general problem in any society undergoing change; namely, how to allocate the costs associated with the dislocation that results from any major social transformation.

The creation of social rights may be seen as one device for ensuring that the costs of change are not borne disproportionately by the weak and the powerless or that the benefits of development are not appropriated exclusively by the privileged and the powerful. The cost of social solidarity may impose short term constraints on the development process, but it is also the case that the erosion of solidarity may impose an equal or greater cost. This is simply because it is irrational for workers to participate willingly in a process of economic modernization and rationalization that destroys their traditional way of life and generates economic insecurity. The history of Western capitalism provides ample evidence of the "costs" that result from popular resistance to the social dislocation produced by economic development. The alternative to the "costs" of income security is either the cost of the coercion and repression required to contain this resistance or economic stagnation. This is as true today as it was in the last century. New technologies and a changing international marketplace are forcing major adjustments on Western economies. Quite correctly, Western workers are greatly disturbed about the consequences of these changes for their jobs and incomes and those of their children. The result is resistance to technological innovation and political struggles to insulate national economies from the international marketplace. In effect, it is insecurity, not security, that acts as a fetter on economic transformation.

Endnotes

1. The recent political history of the United States provides a possible exception to this generalization. Poverty and race intersect in the United States in a way that makes "poor relief" a more divisive issue than elsewhere. Elsewhere, however, recent conservative assaults on the welfare state have been directed entirely at the income security component of public programs. Social assistance programs that provide income-tested benefits at rates below prevailing market wage rates are not seen as a threat to the process of wage-formation. In Canada, for example, both the Canadian Manufacturers Association and the conservative Fraser Institute advocate the replacement of all existing income maintenance programs with a

guaranteed annual income (i.e., a social assistance program). To my knowledge, however, even in the United States the main social assistance program for the elderly, Supplemental Security Income (SSI), has not been the subject of much debate or concern other than for the fact that benefits remain below the "poverty level."

2. An early example is the Canadian Annuities Act of 1908. The intent of the Act was to make available a voluntary insurance scheme for old age that did not suffer from the deficiencies of plans then available in the market. Payments did not have to be made on a regular basis nor were contracts cancelled during periods of non-payment. However, a survey in 1915 indicated that participants were largely from among the lower professions (teachers, clergy) skilled craftsmen and small businessmen. Laborers accounted for only 4 percent of sales (Guest, 1985:36).

3. I can illustrate this with the employer-sponsored plan at my University. In addition to the University staff required to administer the plan, the University retains an accounting firm, a bank and two consulting companies to advise and manage the funds accumulated in the plan. In contrast, contributions to the centralized state program by university employees are managed with virtually no overhead costs.

4. Even when the firm is able to do so there is no guarantee that it will. Many firms in Canada and the United States simply retain inflation-generated wealth in order to reduce their liabilities and enhance profits.

5. Public subsidies of private pensions and retirement savings have the opposite effect, redistributing from low to high income earners.

6. Realization of this fact, has led traditional Social Democrats to recognize the limits of the welfare state as a means to achieve a more egalitarian distribution of income.

7. It should also be apparent that such stabilization may require considerable redistribution at any given point in time: from the employed to the unemployed, from the healthy to the sick, from the young to the old. This is why cross-sectional studies of income distribution inevitably show that the final distribution of income (i.e., after transfers and taxes) is more equally distributed than the distribution of primary incomes generated by the market.

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FINANCING RETIREMENT IN CHINA: THEORETICAL AND EMPIRICAL PERSPECTIVES

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I. Introduction

As nations industrialize and their populations age, they develop more elaborate systems for insuring the well-being of their elderly populations. Currently, about 80 million -- nearly 8 percent -- of China's population is 60 years of age or older; approximately 8 million receive retirement benefits.[1] By the year 2040, China's elderly population is likely to grow to nearly 400 million, representing over one-quarter of the nation's population.[2] The choices facing China concerning the support of this rapidly expanding population will have important consequences for the nation's economic development. This paper examines alternative methods of financing retirement and investigates their implications for a range of economic issues-- including saving, labor force participation, fertility, equity, and economic efficiency.

Unlike public works or defense, old age security is not a public good that can only be provided at some socially optimal level through public intervention. Left to their own devices, households can, in principle, provide for their old age support by relying upon children, personal savings, private pensions, or some combination of these. In China, as in most developing countries, the majority of the elderly continue to rely upon private sources of finance as their employment activities diminish in old age.

Yet, for several reasons, governments have historically assumed an interest in retirement programs. Their motives often include greater equity, but public pensions also appear to provide insurance functions which are difficult to obtain through private arrangements. In any case, the choice of the retirement system, whether left to the household or a public program, has important implications for a still broader set of economic issues. The system used to finance old age support can substantially affect a country's overall rate of capital formation, labor force participation, and population growth.

The factors that affect decisions on public pension policy include both country-specific institutional issues as well as more general relationships between retirement policy and its economic consequences. This paper focusses on the latter category of relationships, bringing to bear available theoretical models and empirical evidence from the experience of other countries. This is not to deny the importance of uniquely Chinese factors in Chinese retirement policy; the history of the present pension system as well as the goals of the government clearly affect how pensions will evolve in the future. Nevertheless, it is possible to identify a cluster of issues that all countries face in devising their retirement policies, and to assess what global evidence there exists on the economic consequences of alternative policy directions.

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[1] "Growing Old in China," Beijing Review, No. 43, p. 22.

[2] Hsiao, Table 1, p. 6a.

The approach of this paper differs from that of other, more descriptive surveys of global pension policies[3] in that explicit theoretical models and formal statistical procedures are used to review the global evidence. The theoretical models used provide a survey of potential linkages between social security and household behavior. The practical importance of key relationships, however, cannot be determined on the basis of theoretical considerations alone. Therefore the paper also provides empirical estimates of key theoretical relationships using data from a large sample of countries. The results of this analysis provide some new quantitative evidence on the interdependence of public pension policy and economic activity.

II. The Policy Questions Facing China

Up to 1986, publicly-financed retirement programs in China were largely, but not exclusively, limited to government workers and workers in state enterprises.[4] The remainder of the population relied on private means -- principally intra-family transfers -- for its support in old age. As in most other countries the public programs operate on a pay-as-you-go basis: current workers pay the retirement costs of the presently retired population, and depend on the next generation for similar benefits. To some extent, private transfers operate on the same principle, although with increasing private ownership of property, Chinese households can now also accumulate assets for income in their later years. In many societies the eventual transfer of accumulated assets from parents to children (land, house, belongings) is understood to be an essential component of intra-family support arrangements. In such a setting it is difficult to say whether old people are really dissaving or simply receiving pay-as-you-go transfers.

China's public pension system comprises four independent, separately-financed programs. Two of these programs -- one for government workers and the other for workers in state enterprises -- are well organized, with a benefit structure well defined by law and regulated.[5] The other two, providing cooperative insurance for workers in collectives, are less well organized. Pension programs sponsored by urban collectives cover most workers and try to match the benefits offered by state enterprises whenever possible. By comparison, rural communes, covering the vast majority of China's population, provide only limited coverage. Only in recent years have some relatively prosperous rural communes and production brigades introduced pension plans for their retirees. Still, such coverage is exceptional, and where it does exist, eligibility standards and benefits vary widely according to local conditions.[6]

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[3] See for example Petri (1982).

[4] For more extensive accounts of old-age and social insurance programs in China, see Beijing Review (1983), Davis Friedman (undated) and Hsiao (1984). In 1986 China announced a new social security program, the scope and provisions of which were not known when this paper was written.

[5] Eligibility requirements and benefit pensions are specified by Labor Insurance Regulations of the State Council.

Close to 100 percent of the workers in government and state enterprises are covered for retirement.[7] Perhaps close to 90 percent of the workers in urban collectives are also covered. Meanwhile, less than 1 percent of the peasants in the rural collectives are eligible for retirement benefits. In total, approximately 25 percent of the workers in China are eligible for retirement income under the social insurance system.[8]

The total cost of this system is already large, particularly for the workers employed by the government and state enterprises. In 1982, expenditures for retirees covered by government and state enterprise programs amounted to 7 billion yuan -- approximately 1.5 percent of national income in that year. The average annual expenditure per retiree was 720 yuan, with 70 percent allocated to retirement pay and 30 percent going toward health care and other expenses.[9] As China's retirement system evolves, increasingly pressing issues arise with important implications for the pace and composition of Chinese development. Some that will require intense study and debate are listed below.

COST. The cost of providing retirement insurance and employee welfare benefits for government and state enterprise workers has been increasing steadily, and even more rapidly than workers' wage rates. In a 10-year period, the amount spent for these benefits as a percentage of the total wage bill has increased from 14.3 percent of the total to 21.7 percent in 1982.[10] As China's new economic directions create profitable investment opportunities, the true burden -- in terms of foregone investment in productive capacity -- of using state and enterprise surpluses for social insurance is undoubtedly increasing with time.

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[6] Beijing Review, October 26, 1981.

[7] In contrast to programs that distribute pensions as legal "entitlements", Chinese administrators authorize pensions only after a case-by-case review of each individual's work history, current financial needs and past history of political behavior. As a result, the pattern of increase in the number of pensioners in China has been interrupted, at least twice -- during the Great Leap Forward (1958-59) and during the most radical years of the decade of the Cultural Revolution (1966-76). During these years, the percentage of elderly receiving pensions fell even as the number of those officially eligible increased (Davis-Friedman, 1983).

[8] Based on figures from Zeng (1983) and the Statistical Handbook of China, 1984.

[9] Hsiao, p. 27.

CAPITAL ACCUMULATION. With the exception of provident funds in a few countries, most state-sponsored pension programs operate on the pay-as-you-go principle. Because individuals have less need to save for old age under these arrangements, pay-as-you-go systems may have adverse implications for capital accumulation and economic development. However, the alternative arrangement -- a fully funded system -- is far more costly in its early phases, since substantial investment trust funds need to be established before benefits are paid.

POPULATION GROWTH. The anticipated burden of retirement support on the now-young generation is a source of concern to parents. Many recognize that it will be untenable for a single child and spouse to bear the expense of raising a family and supporting two sets of parents. This recognition provides a powerful incentive to violate the government's one-child policy by having two or more children. Public pensions provide an alternative source of old age support, and their availability in the formal urban sector may help to account for the success of the one-child policy in China's cities.[11] For most rural households, however, the alternative to having more children is saving. In fact, penalties for having more than one child appear to have encouraged private savings, especially in rural areas.[12] Continued low or negative real rates of interest, however, discourage the use of savings as an alternative to higher fertility.

EFFICIENCY. The current structure of China's pension programs inhibits factor mobility. Enterprise-based pension programs not only distribute the pension costs unevenly among enterprises, but they also inpair the phasing out of obsolete and inefficient enterprises within the state sector. China's present pension system does not permit the transfer of accrued pension benefits from one program to another when workers change jobs, and within the state enterprise system it does not permit transfers from one enterprise to another. Thus, the system obstructs the mobility of labor and capital to the emerging, productive sectors of the economy.

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[10] Hsiao, p. 23.

[11] Under some conditions, discussed more fully below, social security could actually encourage fertility. For example, the empirical results reported in Section IV indicate a slight positive effect.

[12] During 1978-83, annual income per capita rose by 67 percent in nominal terms, while, during this period, savings deposits per capita increased by 400 percent. The ratio of the increase in savings relative to the increase in income for rural areas was approximately twice that or urban areas (Statistical Handbook of China 1984. pp. 453,).

LABOR FORCE PARTICIPATION. The normal retirement age specified by regulation is 60 for men, 55 for women cadres, and 50 for women labors.[13] These regulations may have been appropriate twenty years ago when only a small proportion of workers survived until age 60 and few remained in good health. Now life expectancy has greatly increased due to better nutrition, housing health care, and sanitation. Many more people are healthy and can work beyond age 60, and a significant increase in retirement age may be desirable. Hence the effect of social security benefits on the labor force participation rates of older workers is of particular relevance to current policy.

The issues outlined above play a critical role in the formulation of China's social retirement policy. As households, local workplaces, and local governments attempt to cope with the growing burden of old-age support, the consequences of policy for costs, saving, fertility, efficiency, and labor-force participation need to be reconciled internally within the retirement system and also externally with the nation's other social and economic development objectives.

III. The Economics of Retirement and Public Pensions

Background Assumptions

The economic role of the aged and the provision of public support for retirement differ widely across countries and in a given country over time.[14] Some differences can be explained in terms of cultural heritage and political orientation. But a significant part of the variation is due to economic and demographic differences, including variables such as sectoral and demographic structure and the level of economic development. These relationships suggest that retirement and public financial support for retirement are motivated by fundamental aspects of economic structure. Indeed, our understanding of these phenomena has been advanced substantially in recent years by economic analyses of the factors that affect an individual's retirement decision and its interactions with the economic environment.

The first requirement for an economic theory of retirement is that there exist substantial differences in the economic characteristics of the young and old (suitably defined). In fact, there is considerable empirical evidence that aging alters certain physiological and mental functions that have a bearing on economic performance.[15] In addition to physiological differences, younger and older workers also differ in the extent and vintage of their education. Due these differences the productivities of young workers tend to exceed the productivities of older workers, although not equally in all economic activities.

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[13] Beijing Review, No. 43, October 26, 1981, p. 22.

[14] A broad survey of the international aspects of aging is provided by Binstock, Chow, and Schulz (1982)..

[15] See, for example, a variety of studies cited in Petri (1982).

As people age they tend to leave jobs in which their productivity is low in favor of those where their disadvantage is nil or small. These transitions depend, however, on the economy's ability to offer a sufficient number of alternative occupations. In agricultural societies it is often possible for the old to assume such duties as light agricultural labor, child-rearing, and housekeeping, all of which require relatively little physical effort and no retraining or relocation. In an industrial setting, however, the time requirements of occupations tend to be "lumpy" (e.g., a minimum of 40 hours of work is required per week) and transitions often require significant investments in retraining. At the same time, the number of people reaching older age and exiting from demanding occupations tends to be relatively large.[16]

The Retirement Decision

For the reasons cited, industrialization typically implies fewer opportunities and lower wages for older workers. At the same time, it tends to bring higher lifetime incomes. The combination of these trends causes some workers to retire completely from work when their productivity in their primary job falls below some threshold level. Declining income with age, either because of diminished productivity or outright retirement, in turn, creates a life-cycle financing problem: income earned earlier in life must somehow be shifted to support consumption after income declines. Such income shifting can be accomplished through (i) intra-family transfers, (ii) private savings or pensions, and (iii) public pensions or transfers (social security). Consequently, the retirement decision is closely interrelated with decisions about family formation and savings, and with the incentives created by public pensions systems (the motives for which will be explored separately in the next section).

The joint decisions that are involved in retirement and the financing of retirement are best analyzed in the context of the life-cycle model of household income and expenditure, which underlies most recent theoretical and empirical work on retirement.[17] This model assumes that the present value of lifetime spending cannot exceed the present value of lifetime income, but that households are nevertheless able to adjust the time path of expenditure to coincide with varying consumption needs. In the simplest theoretical exercises, for example, consumption needs are assumed to be level throughout life, but income is assumed to be earned at a higher rate in mid-life than in either early or late life. If this is the case, individuals would be expected to borrow early in life, to save in mid-life, and to dissave in late life.

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[16] This may be due both to the relatively rigid specification of industrial jobs, as well as the fact that in most industrial societies the old constitute a relatively large fraction of the population. One example involves the case of child-rearing functions. In high-income countries there are approximately two children for each adult over age 65, while in low-income countries there are, on average, 13 children for each older adult. However able the old may be to assume child-rearing responsibilities, there is simply less need for such contributions in countries with low population growth.

[17] This line of work originates in the seminal paper of Modigliani and Brumberg (1954). A recent application, similar in structure to the model applied in this paper, is Razin and Ben-Zion (1975).

The life-cycle model is readily extended to incorporate the role of intra-family transfers in the financing of retirement. The simplest way to model intra-family transfers is to assume that children provide retirement finance by transferring a fraction of their income (when they become working age) to their parents. In this case, children, like financial savings, represent a form of investment: time and money spent on them earns a return in the form of old-age support.

The "rate of return" on children depends, among other things, on the share of income that children contribute to supporting their parents, which we call the "intra-family transfer ratio." This ratio is determined by social custom and varies considerably over time and across countries. Because industrialization is typically associated with the decline of the extended family, the ratio and the return on children are likely to diminish as a country's economic structure evolves. The fact that children are a form investment, however, does not preclude that they are also directly desired by parents -- that is, enter directly into their parents' utility function.

The expanded life-cycle framework can therefore provide insights about the simultaneous decisions that households make about savings, labor force participation, and child-bearing. To illustrate the concrete results of the approach, a complete, albeit highly simplified, life-cycle model of consumption, work, savings, and fertility is formulated and solved in Appendix A. Its results are presented in Table 1 and discussed in further detail below.

While life-cycle analysis offers a fruitful analytical framework for understanding interdependencies among different dimensions of household behavior, it does not predict unambiguously how a particular exogenous variable (say, the wage rate of older workers) will affect household behavior. A high wage rate at retirement age makes it more profitable to keep working, but it also makes it possible to enjoy increased leisure (retirement). The net effect of these opposing forces depends on an individual's relative evaluation of additional leisure and additional consumption, or in technical terms, on the specification and parameters of the household's utility function. In addition, the household's economic environment is also important, particularly with regard to the opportunities available for lending or borrowing financial capital.

Table 1 calculates the likely effects of changing different determinants of saving, fertility, and retirement under plausible assumptions about household behavior. The critical assumption behind these calculations is that the four "goods" distinguished in the household decision problem -- consumption while young, consumption while old, leisure, and children -- all have equal income elasticities (of unity).[18] Using this assumption the household's decision are evaluated under two different conditions of access to capital markets.

In the first set of calculations, 1 the household is assumed to be able to borrow or lend at roughly equal interest rates (see the no saving constraint solution in Table 1). In the second set of calculations the household's access to capital markets is assumed to be severely restricted -- either because it cannot borrow at reasonable rates or because it cannot invest in a reasonable financial portfolio[19] (see the savings constrained solution in Table 1). Faulty capital market access is what many observers implicitly have in mind when they argue that people have few means, other than children, to provide for retirement in developing countries. With these background assumptions in mind, we now briefly review the salient features of Table 1.

SAVING DETERMINANTS. The main factors that tend to increase savings are those that raise the cost of children (which leads to fewer children and hence diminished intra-family transfers), high taxes or low wages in old age (which encourages work and saving while young), and high interest rates. Factors that tend to decrease savings include variables that increase old age income: social security benefits, high rates of intra-family transfers from children, and a relatively high ratio of old-worker wages to young-worker wages. The saving equation is not evaluated under the saving-constrained case because in this environment the extent of saving is governed by capital market imperfections rather than household decisions.

FERTILITY DETERMINANTS. If saving and borrowing are freely permitted, the number of children is positively affected by factors that increase the "return" from children, such as the intra-family transfer ratio, the survival rate of children, and the ratio of children's wages to their parents, and it is negatively affected by factors that increase the cost of children, such as child-raising costs or the interest rate (which is the opportunity cost of the funds that parents "invest" in children.)

The determinants of fertility are quite different in a savings-constrained environment. In this setting the number of children tends to follow a "target income" rule: if the return from children is high, the household will need fewer children to accomplish any particular saving goal, and therefore factors such as high life-expectancy of children or high intra-family transfer ratios tend to lead to fewer children rather than more. Similarly, social security benefits to the old now have a clear negative effect on fertility, while under the unconstrained solution they contributed positively to fertility through their effect on lifetime wealth (i.e. by making more income available for child-bearing during the household's young period). These solutions illustrate that a households' access to capital markets critically affects the responsiveness of fertility and other aspects of household behavior to social security policy.

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[18] The signs of Table 1 are calculated under a moderate range of substitution elasticities among the four goods. The sign shown is for a low elasticity of substitution; question marks indicate effects that change sign as the elasticity of substitution is increased.

[19] Reasons why an appropriate retirement portfolio may not be available to individual households will be discussed under the "insurance" motive for public pensions in the next section.

LABOR FORCE PARTICIPATION DETERMINANTS. Whether (or more precisely, to what extent) the members of a household remain economically active in old age is related to the "cost" of leisure or retirement relative to the other three "goods." Factors that increase the cost of leisure in terms of consumption, such as high relative wages for old workers, increase labor force participation, while factors that reduce its cost, such as a high tax on old workers' wages, encourage retirement. Social security benefits encourage retirement by raising lifetime income.

Some determinants of old-age labor force participation change dramatically when savings are assumed to be constrained. The variables that become very important in this solution are the sources of income in old age: the higher the social security benefits, the higher the intra-family transfer ratio, and the greater the life-expectancy of children, the lower will be the labor force participation rate of older workers. In other words, intra-family and public transfers become the critical determinants of retirement in a society with imperfect capital markets.

Motives for Public Pensions

The analysis has so far assumed public retirement support as "given" and concentrated on private decisions about retirement and its finance. While the life-cycle model developed so far applies regardless of the extent of publicly-provided social security, its results will be obviously sensitive to the size and structure of public pensions. Suppose, for example, that public pensions are instituted in an economy that previously had only private means for financing retirement. The life-cycle retirement model would now predict some increase in retirement and, provided that this increase is not very large, also some decrease in saving and fertility, the private channels for financing retirement.

What, then, determines the level of public support for retirement? Analyses of government motives for social security are provided by Diamond (1977) and other recent research. Reasons for public intervention range from the argument that private decisions about retirement are not sufficiently rational to the view that private markets do not provide proper savings instruments for implementing a rational retirement savings program. A brief, but reasonably complete list of alternative rationalizations is provided below.

PATERNALISM. It is commonly argued by proponents of social security, especially non-economists, that individuals will not save enough to finance retirement when left to their own devices. Responsible social policy therefore requires a "forced saving" program imposed by government. This line of argument is in conflict with the central paradigm of contemporary economic theory, which assumes that individuals generally act rationally in their own welfare. Nevertheless, Diamond shows that even in the United States, where incomes and educational levels are high, people tend to accumulate savings at well below the rate required to maintain consumption at pre-retirement levels after retirement. In 1969, for example, he calculates that the ratio of wealth to income at the time of retirement would have to have been around 2.5 to 3 in order to prevent a decline in living standards after retirement; yet 60 percent of the population entered retirement with wealth to income ratios below 2. The paternalism motive suggests that social security spending will tend to be larger, all else equal, in countries with low savings rates and high retirement rates.

INCOME DISTRIBUTION. Social security program may be also used as an instrument for reducing income differences among households. Social security is not the only such instrument; income redistribution may be effected also with instruments such as a progressive income tax. But social security programs may be relatively efficient compared to income-based programs because they are keyed to lifetime income rather than income in a particular year, which may be subject to substantial measurement error. Also, social security redistribution involves lesser disincentives with respect to work, since it affects people who are more likely to be out of the labor force. Accordingly, redistribution policies may be more efficiently implemented by using both income taxation and social security programs rather than either instrument alone.

INTER-GENERATIONAL INCOME REDISTRIBUTION. Social security can also be used to shift income among generations. For example, a pay-as-you-go system that is substantially expanded in scope tends to shift income from later generations to earlier generations. Redistribution of this type may be warranted because technological progress or some other economic developments make later generations rich compared to earlier ones. Along similar lines, recent theoretical work suggests that social security can provide "inter--generational insurance," in the sense that it increases the lifetime incomes of people who lived through particularly adverse economic conditions (such as the Great Depression) at the expense of those who lived in relatively prosperous times.[20]

POLITICAL PRESSURE. Even if the government is not concerned with the distribution of income, political pressures may cause it to undertake inter-generational income transfers. This "political economy" motive will play an important role if the political powers of the older and younger generations are dissimilar. Since public policies about social security have a proportionally greater effect on the incomes of older citizens than on those of younger citizens, pressures for higher social security benefits tend to be more intense than those for lower social security taxes. Due to these forces, the size of politically-determined social security systems may systematically exceed their economically optimal scale.

INSURANCE AGAINST PRODUCTIVITY DECLINE. While productivity tends to change systematically with age when averaged over large groups of workers, age-related productivity changes may vary dramatically across individuals.

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[20] See articles by Petri (1984) and Gordon and Varian (1985).

Unpredictable changes in health, strength, and other characteristics that affect productivity expose individuals to large risks with respect to income at older ages and/or the length of their working life. In a traditional economy, insurance against productivity decline is typically provided by the extended family. In a modern industrial economy, insurance within the nuclear family is much less feasible, yet the provision of commercial insurance is complicated by the problems of "adverse selection" and "moral hazard." To the extent that these problems preclude the provision of commercial insurance, the government can render an important economic service by establishing social insurance.

Adverse selection arises if individuals differ in their expected productivity decline or date of retirement. In this case, a commercial insurance program that pays benefits to people who retire early will be especially attractive to workers whose propensity to retire early is high. Consequently, commercial retirement insurance would attract a disproportionately large group of workers who are "bad risks"; it would have to charge very high premium, and could not offer realistic protection for the population at large. Government insurance can solve the problem of adverse selection by imposing compulsory protection on an entire class of workers, who therefore include "good" as well as "bad" risks.

Moral hazard arises if the existence of the insurance system changes individual behavior in such a way that losses increase. Specifically, insurance that provides payments in the event of premature retirement may itself cause people to retire early. Government insurance does not eliminate the problem of moral hazard, but it may be easier for the government to monitor whether a person has really retired or not (for example, by cross-checking tax records) than it would be for a commercial insurance program.

INSURANCE AGAINST UNCERTAIN RETURNS ON SAVINGS. Private provisions for retirement may involve substantial unnecessary financial risk. Several kinds of problems may be involved. First, capital markets do not typically offer securities with fixed real returns, that is, insurance against inflation risk. Second, households may not be able to diversify retirement portfolios adequately. For example, households in low income countries often have all of their "portfolio" invested in children and are thus exposed to great risks should the children die or fail to fulfill family obligations. Third, some kinds of diversification are particularly difficult: while capital markets do provide claims on future returns to capital, it is very difficult to acquire claims on future labor incomes.[21] Government can insure against these risks by pooling the retirement finances of a large number households, by financing social security in part from current taxes on the working population, and by indexing benefits to keep up with inflation.

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[21] See Merton (1983).

Side-effects of Social Security Policy

The previous section has provided a catalogue of reasons why governments provide public pensions. Household responses to social security will in turn affect key economic variables such as the size, composition, and growth of the labor force and the rate of capital accumulation. Through these channels, social security policies have major implications for other social priorities such as the rate and structure of economic growth.

Capital accumulation is a key objective of government policy in most developing countries. While either a positive or a negative relationship between private saving and social security benefits would be consistent with the theoretical predictions of the life-cycle model, at least one of the recent empirical studies cited in Section IV has detected negative effects.[22] It must be stressed that these considerations apply strictly to pay-as-you-go social security systems, since a system which accumulates trust funds before paying benefits can completely offset (and perhaps more than offset) whatever negative impact it may have on private savings. In China, as elsewhere, negative savings consequences could provide a powerful motive against the adoption of a large pay-as-you-go social security system.

Population growth also ranks highly among government policy targets. Again, either a positive or a negative relationship between social security and fertility is theoretically possible, but recent empirical evidence tends to support a negative relationship. Thus government efforts to decrease the fertility and the population growth rate tend to reinforce other motives for establishing a social security program or increasing its size.

The size of the labor force may be also significantly affected by social security's impact on retirement. This change could be consistent with the government's non-social security objectives if the rate of unemployment among young workers is high. Alternatively, in times of tighter labor markets, the withdrawal of older workers could be viewed as an economic cost, since the premature replacement of an older worker by a younger entails a loss in experience and productivity. In general, the expansion of a social security system implies smaller production losses if it is undertaken when labor markets are relatively slack.

Finally, social security expenditures are subject, in common with other government programs, to the government's overall budget constraint. On the revenue side, factors that increase the government's ability to raise taxes or borrow, without crowding out private saving or adversely affecting economic incentives, tend to have a positive effect social security expenditures. On the expenditure side, factors that increase competition from other types of government spending, such as urgent national defense requirements, tend to have a negative effect on social security.

The effect of these non-social security issues, in combination with the social security motives discussed in the prior section, is that countries facing different economic conditions will adopt different -- although perhaps predictably different -- approaches toward public pensions. A summary of the direct and indirect government objectives that impinge on social security policy is presented in Table 2. The Table also lists some observable variables that are related to the different motives for social security; these variables will provide some basis for estimating the empirical importance of the different motives in cross-country data.

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[22] See Feldstein (1980).

IV. Social Security and Household Behavior: Empirical Results

Previous Empirical Work

Several studies that have examined the impact of social security programs using cross-national data are reviewed below. These studies provide useful empirical evidence on some of the relationships discussed in this paper, but they typically fail to view household saving, fertility, and retirement behavior as interdependent aspects of an integrated decision. Thus saving, fertility, and retirement functions are not recognized as parallel demand equations, and potentially important indirect determinants are sometimes omitted from their estimating equations.

There also exist at least two cross-country studies of the determinants of social security spending. These studies are also useful in identifying national characteristics that affect social security, but they too stop short of modeling social security policy and household in a simultaneous framework. If governments act as agents of households or otherwise take private behavior into account in making social security policy, social security expenditures cannot be analyzed separately from their impact on saving, fertility, and retirement. Partial analyses that ignore the simultaneous nature of social security policy and household behavior will be also subject to the usual biases associated with partial estimation of a simultaneous system.

SAVINGS STUDIES. In several studies, one of which is based on data from twelve OECD countries (1980), Feldstein finds that social security programs systematically depress private savings rates. Either a negative or positive relationship would be consistent with the life-cycle model, and other investigators have challenged Feldstein's results. Barro and MacDonald (1977) use a mix of time-series and cross-country data and find a positive association between social security benefits and savings when a common intercept is used in their regression equation and a negative association when individual country intercepts are used. Koskela and Viren's (1983) "disequilibrium" savings model uses data from sixteen industrial countries and finds no significant relationship between household saving and social security.

FERTILITY STUDIES. Using cross-national data from 67 countries, Hohm (1976) finds that high social security benefits lead to sharply lower fertility rates, rivaling the effect of such traditional determinants of fertility as per capita income and education. Using Hohm's data, Kelly, Cutright and Hittle (1976) show, however, that the introduction of a modernization index eliminates social security as a significant determinant of fertility. Still other studies support the inverse association between fertility and social security reported by Hohm. For example, Nugent and Gillaspy (1983) found that across 34 counties within one region of Mexico high rates of participation in social security appreciably reduced fertility rates. Thus, Holden in her review of these and other studies (published in this volume) concludes that the research to date is inconclusive.

RETIREMENT STUDIES. Critics of Feldstein's savings results have noted that generous old age income may induce earlier retirement and thus increase the need for saving. In his 1980 article, Feldstein does find that social security increases retirement but not enough to require increased non-social security savings. Although we are not aware of other international studies of the retirement decision, there is a great deal of evidence on retirement derived from United States data (see for example, Gordon and Blinder, 1980). These studies typically find retirement decisions to be highly sensitive to market wages and the structure of private and public pension plans.

SOCIAL SECURITY EXPENDITURE STUDIES. We are aware of two studies which investigate empirically the determinants of a government's spending on social security. Aaron (1967) uses cross-section data from 22 countries to investigate the determinants of social security expenditures. Positive factors include: per capita national income, growth rate, household saving, and such country-specific variables as the age of the social security system, participation in past wars, and the method of social security financing. Entwisle and Winegarden (1984) provide the only simultaneous model we are aware of in the field in estimating the determinants of fertility and government social security expenditure. Using data from 52 countries, they find that reduced fertility and increased social security spending are mutually reinforcing. Their hypothesis -- that reduced fertility makes it possible to divert expenditures from children to old-age security -- is one of several that we can examine in the context of the broader model estimated below.

Present Estimates

The theoretical model outlined in Section III has indicated the potentially important determinants of household saving, fertility, labor force participation, and national social security expenditures. In this section, a system of four linear equations is estimated to add empirical content to the theoretical model. The principal variables of the model -- the empirical counterparts of the theoretical variables listed in Tables 1 and 2 -- are defined in Table 3. We were unable to find comprehensive cross-country data on some potentially significant variables,[23] and these are omitted from Table 3.

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[23] These include the real interest rate on long term private savings, the social security tax rate on the working generation, and the effective social security tax rate, including benefit losses from delayed retirement, on the retirement-age population.

The model is estimated using two-stage least squares, with the variables of Table 3 acting as first stage regressors. Three sets of estimates are presented. The first set uses information from all 30 countries for which data were available. The second and third sets are identical in form to the first set but are based on a subdivision of the 30 country sample into two samples, a 14-country OECD sample and a 16-country non-OECD sample.

The results appear in Tables 4 through 6. All of the equations provide statistically significant explanations. The equations for the fertility, labor force participation, and social security expenditure fit quite well, with RBAR^2 coefficients in the 0.42-0.89 range. The saving equation also fits well in the OECD region ($R^2 = 0.77$), but it does not fit well in the non-OECD region or for the sample as a whole. The tables are generally self-explanatory, but it is worth briefly outlining their salient results.

SAVING EQUATION. The saving equation is quite significant in the OECD part of the subsample. In the OECD countries, saving is negatively affected by social security expenditure (SSEXP), supporting Feldstein's finding that the saving-displacement effect of social security dominates its retirement and other effects. In non-OECD countries the variable is also negative, but its coefficient is small and not significant. It appears that the effect of social security is quite different in low and high-income countries: in high-income countries higher benefits lead to reductions in saving as well as earlier retirement, as Feldstein has argued, while in low-income countries the effects show up mainly in fertility and earlier retirement.

Saving is significantly affected by INCOME per capita in both the OECD and non-OECD subsamples, but the signs of the effects are different. In the OECD the relationship is negative, suggesting a decline in the savings rate with income, while in low-income countries higher income tends to raise savings. The growth of labor productivity (PRODUCTIVITY) affects savings positively. This variable affects saving through two channels: as it increases expectations of future labor income, it tends to reduce the saving rate, but as it causes the income of working age people to account for a larger share of aggregate national income, it tends to increase the (aggregate) saving rate. In the statistical results the net effect of these opposing forces turns out strongly positive. Finally, the OECD equation shows a positive effect for education, perhaps because human capital is a substitute for physical and financial capital.

The portion of the population of working age (WORKAGE) enters the saving equation as a result of aggregating the lifecycle model from the level of the household to that of the economy as a whole. The variable, like the PRODUCTIVITY growth variable should affect saving positively; the greater the proportion of working age people, the greater is the margin by which the younger generation's saving exceeds the older generation's dissaving. In practice its effect appears to be negative, although not statistically significant.

FERTILITY EQUATION. In this equation also there are significant differences between the behavior of the OECD and non-OECD subsamples. In the OECD, per capita INCOME and industrialization (INDUSTRY) are the main significant variables; both affect fertility negatively. In the non-OECD equation, social security (SSEXP), LIFE expectancy, and the labor PRODUCTIVITY growth are the main explanatory variables, all with negative signs. Of these, the negative signs on SSEXP and LIFE are in accord with expectations. The sign of the PRODUCTIVITY variable is also consistent with theory under the hypothesis of imperfect capital markets, in which case the expectation of increased productivity implies that families need fewer children to assure support in old age.

Thus, the fertility equation show definite social security effects in developing countries. This is consistent with micro evidence, although past macro studies have not been able to show the effect on a macro level. Interestingly, variables that have been identified as potentially important in past work, including female EDUCATION and INDUSTRY do not turn out to be significant.

LABOR FORCE PARTICIPATION EQUATION. The social security variable, SSEXP, has the expected negative sign in both OECD and non-OECD equations, and it is quite significant in each case. Other variables have different effects in the two subsamples. In the OECD, life expectancy is the most important variable, and it tends to increase labor force participation among aged workers, presumably because of the cost of supporting retirement requires greater current work effort if the period of potential retirement is long. In the non-OECD equation, retirement is accelerated if labor PRODUCTIVITY growth is fast. In addition, the LIFE expectancy variable is now statistically significant with a negative sign. This finding is unexpected; longer life-spans should lead to increased requirements for earnings from work in old age. At the same time, the longer people live, the larger the productivity differential between them and younger workers, and thus the greater the incentive to withdraw from the labor force. This latter effect appears to dominate.

SOCIAL SECURITY EXPENDITURE EQUATION. The social security equation fits well in both the non-OECD and OECD subsamples. The variables that turn out to affect social security spending in the same direction in both the OECD and non-OECD subsamples are three key exogenous variables: the level of industrialization (INDUSTRY), the proportion of OLD people in the population, and the general spending propensity of the government (GOVTCONS). All of these variables affect social security expenditures positively.

The endogenous variables of the model -- private saving, fertility, and retirement--have somewhat different impacts in the OECD and non-OECD subsamples. In the OECD sample, high saving (SAVE) and high labor force participation by older workers (ACTIVE) enter negatively; governments appear to assume a greater role for public income support if many people retire and if private savings are low. This response fits with the paternalistic motive, although it could also reflect the recognition and correction of market failures (such as the insurance motives discussed in Section III). FERTILITY is positive; evidently, governments spend more on social security if fertility rates are high. In the non-OECD sample the only significant endogenous variable is FERTILITY, which enters with a negative sign. In other words, high fertility rates cause governments to reduce social security expenditures, perhaps because of competing claims on their revenues. In any case, the reduction in social security planning may in turn encourage further increase in fertility, as suggested by the fertility equation in the non-OECD sample.

V. Summary and Conclusions

The theoretical and empirical sections of this paper have demonstrated that social security policy is closely connected with aspects of economic behavior that have important implications for overall economic performance. The theoretical arguments do not always predict the magnitude or even sign of the effects, but they do identify the channels of interdependence that need to be recognized in policy making.

The empirical work in this paper is preliminary, but it does show that some of the more important theoretically expected effects are evident in a review of cross-country experience. In particular, social security expenditures appear to have relatively large savings effects in developed countries and relatively large fertility and retirement effects in developing countries. This is consistent with micro-level studies of similar phenomena; evidently, the greater "control" provided by our simultaneous model provides better access to the specific relationship between social security and aspects of behavior than is possible using single-equation approaches.

Where does China's present social security system fit into the empirical experience analyzed in this paper? Unfortunately, because of an absence of certain data, we could not include a Chinese observation in any of the estimating equations, and we cannot directly compare China's performance with those of other countries in terms of the variables analyzed in this paper. Nevertheless, we have estimated values for the variables under study for China, under the assumption that its behavior is similar to that of the cross-country sample.

With respect to saving, the sample predicts a markedly higher rate, given Chinese values for exogenous variables, than appears to be China's actual private saving performance. This discrepancy would need to be analyzed further before definitive conclusions can be drawn about its causes. It should be observed, however, that the role of state and communal institutions is more important in China than elsewhere. Thus the state can be expected to account for a greater part of individual spending and saving decisions, and private savings needs as well as opportunities may be more limited than in other countries. Still, the discrepancy may suggest that a significant potential exists for future resource mobilization from private savings.

China's fertility rate is significantly lower than is predicted by the cross-country regression. This difference provides still further evidence that the strong effort which the country has recently made in reducing population growth is paying off.

Finally, China's pension expenditure rate appears to be consistent with those of other countries. This is a somewhat surprising finding, since it is often argued that China has inherited a large, and perhaps excessive, support program from its earlier policies. While it may be true that the support burden has reduced private savings and encouraged some reduction in work effort (primarily in industry) the size of the protection system which has led to these expenditures is approximately the same order of magnitude as in other countries with comparable economic characteristics.

The point of these comparisons is not to identify "target" values for Chinese policy. Given China's national goals, the interrelationships between pensions and household behavior may be exploited in ways quite different from those followed by other countries. The point, rather, is to gather evidence on the relationship between policies and their consequences. The empirical results presented are far from definitive; further refinements in data and additional analysis is needed to verify these preliminary findings. Nevertheless, the results indicate that the relationships postulated by economic theory have important practical implications and need to be consciously integrated into the formulation of policy.

Table 1
DETERMINANTS OF HOUSEHOLD BEHAVIOR

Theoretical variable	Related Observable Variables	No Saving Constraint			With Saving Constraint		
		SAVE	FER	ACTIVE	FER	ACTIVE	
ratio of wage of old worker to that of young	labor productivity growth rate (+) industrialization (-)	-	+	+	-	+	
ratio of wage of children to that of parents	labor productivity growth rate (+)	-	+	-?	-?	-	
interest rate	interest rate (+)	+	-	-	0	0	
survival rate to to old age	life expectancy (+)	-	+	+	-?	-?	
survival rate to working age	life expectancy (+)	-	+	-?	-?	-	
intra-family transfer ratio	income (-) industrialization (-)	-	+	+	-?	-	
cost of child raising	education of women (+) industrialization (+)	+	-	+?	-	+	
social security rate for young workers	social security expenditures (+)	-	-?	+	-?	+	tax
social security tax rate for old workers	social security expenditures (+)	+	-	-	+	-	
social security benefits relative to wages	social security expenditures (+)	-	+	-	-	-	

Note: SAV -- private saving rate
FER -- fertility rate
ACTIVE -- percent of older workers who are economically active

Table 2
DETERMINANTS OF PUBLIC PROVISION OF SOCIAL SECURITY

Motive	Empirically Related Variables
MOTIVES DIRECTLY RELATED TO SOCIAL SECURITY	
Paternalism: belief that individuals will not save enough on their own	Private saving rate
Income distribution: social security provides superior redistributive instrument	n.a.
Inter-generational income redistribution: transfers from rich younger generation to poor older generation	Growth of labor productivity
Political pressure: greater pressure for higher benefits than for lower tax rates	Aged as percent of population
Insurance against productivity decline: markets cannot insure against decline in the ability to work	Industrialization, Per capita income
Insurance against saving risk: individuals cannot diversify portfolios	Industrialization, Per capita income
MOTIVES RELATED TO SOCIAL SECURITY SIDE-EFFECTS	
Capital formation: social security benefits reduce private saving	Private savings rate
Population growth: social security benefit reduces fertility	Fertility rate
Labor force: social security earnings test on older workers reduces labor force participation	Retirement rate
Competing budget priorities: social security expenditures reduce funds available for other purposes	Share of government expenditure in national income

Table 3
VARIABLE DEFINITIONS AND DATA SOURCES

Variable name	Definition	Year(s)
Endogenous		
SAVE	private savings rate	1979**
FERTILITY	total fertility rate	1978*
ACTIVE	percent economically-active males 65+	1978***
SSEXP	percent of GDP spent on social security and welfare per resident 65+ (excluding health and education)	1979**
Exogenous		
OLD	proportion of the population 65+	1978**
EDUCATION	proportion of school age females enrolled in secondary school	
GOVTCONS	share of government consumption in GDP	1978**
GDPGROWTH	average annual rate of percapita income growth	1970-78*
INCOME	per capita income (natural logarithm)	1978*
INDUSTRY	proportion of the labor force in industry	1978*
LIFE	life expectancy at birth	1978*
PRODUCTIVITY	average annual rate of labor productivity growth	1970-78*
WORKAGE	proportion of population of working age	1978*

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* World Development Report
** World Tables
*** International Labor Organization
**** Latin America, South Asia, East Asia, OECD, other (Middle East and Africa)

Table 4
SYSTEM ESTIMATES: OECD SUBSAMPLE

	SAVE	FERTILITY	ACTIVE	SSEXP
Intercept	0.6392	10.2328	-2.6650	-3.0154
	(2.1982)	(2.0733)	(2.6705)	(6.5454)
INCOME per capita	-0.0871	-1.2434	-0.0632	n.a.
	(5.0198)	(5.0797)	(1.2854)	
PRODUCTIVITY growth	0.0216	0.0292	0.0292	n.a.
	(3.3058)	(0.2669)	(1.3370)	
INDUSTRY	-0.1363	-4.6730	0.1670	4.8883
	(0.8470)	(1.8153)	(0.3287)	(4.2842)
LIFE expectancy	0.9239	5.9525	4.4597	n.a.
	(2.0506)	(0.7752)	(2.8489)	
EDUCATION females	-0.0019	0.0012	-0.0003	n.a.
	(3.8981)	(0.1425)	(0.1678)	
WORKAGE percent	-0.2896	n.a.	n.a.	n.a.
	(1.3850)			
SSEXP/gdp/ per elderly	-0.0357	0.1196	-0.0867	n.a.
	(3.0056)	(0.6515)	(2.3751)	
GOVTCONS-umption	n.a.	n.a.	n.a.	1.1522
				(0.8641)
OLD percent	n.a	n.a	n.a.	11.5553
				(4.0301)
SAVE rate	n.a.	n.a.	n.a.	-4.5764
				(3.0310)
FERTILITY rate	n.a.	n.a.	n.a	0.3693
				(3.0145)
ACTIVE elderly	n.a.	n.a.	n.a	-1.7185
				(3.6912)
R^2	0.8945	0.6903	0.7773	0.9389
$RBAR^2$	0.7714	0.4249	0.5864	0.8865

Table 5
SYSTEM ESTIMATES: NON-OECD SUBSAMPLE

	SAVE	FERTILITY	ACTIVE	SSEXP
Intercept	-0.2854	6.5598	0.6954	-2.5101
	(0.5618)	(3.0639)	(1.9269)	(1.4202)
INCOME	0.1327	0.2913	0.0790	n.a.
per capita	(2.4887)	(0.6431)	(1.0405)	
PRODUCTIVITY	0.0200	-0.1333	-0.0314	n.a.
growth	(2.0175)	(1.7534)	(2.4376)	
INDUSTRY	-0.6816	3.2911	-0.2548	4.5181
	(1.6859)	(0.9222)	(0.4269)	(1.7704)
LIFE	-0.3668	-10.5767	-1.7158	n.a.
expectancy	(0.7093)	(2.4853)	(2.3572)	
EDUCATION	0.0001	-0.0033	-0.0036	n.a.
females	(0.0907)	(0.3012)	(1.8920)	
WORKAGE	-0.3398	n.a.	n.a.	n.a.
percent	(0.5235)			
SSEXP/gdp/	-0.0095	-0.6650	-0.0856	n.a.
per elderly	(0.3277)	(4.0756)	(3.1223)	
GOVTCONS-	n.a.	n.a.	n.a.	5.8486
umption				(2.7472)
OLD	n.a	n.a	n.a.	15.9900
percent				(1.3699)
SAVE	n.a.	n.a.	n.a.	-1.8787
rate				(0.7773)
FERTILITY	n.a.	n.a.	n.a	-0.8626
rate				(2.4404)
ACTIVE	n.a.	n.a.	n.a	2.1743
elderly				(0.9845)
R^2	0.5561	0.8706	0.8151	0.8961
$RBAR^2$	0.1677	0.7843	0.6918	0.8268

Table 6
SYSTEM ESTIMATES: FULL SAMPLE

	SAVE	FERTILITY	ACTIVE	SSEXP
Intercept	-0.3179 (0.9393)	7.6349 (1.6365)	0.8217 (2.4822)	-0.9265 (0.8213)
INCOME per capita	0.0568 (2.2751)	-0.3414 (1.6013)	-0.0238 (0.5508)	n.a.
PRODUCTIVITY growth	0.0137 (1.6401)	-0.1278 (1.9623)	-0.0260 (1.9148)	n.a.
INDUSTRY	-0.0114 (0.0360)	3.3127 (1.2730)	0.2300 (0.4595)	5.1028 (2.4954)
LIFE expectancy	0.0795 (0.2389)	-5.1757 (1.7784)	-0.9015 (1.4552)	n.a.
EDUCATION females	-0.0002 (0.3068)	-0.0022 (0.3231)	0.0020 (1.3712)	n.a.
WORKAGE percent	-0.1259 (0.2766)	n.a.	n.a.	n.a.
SSEXP/gdp/ per elderly	-0.0268 (1.1324)	-0.6560 (4.1224)	-0.0937 (3.0040)	n.a.
GOVTCONS-umption	n.a.	n.a.	n.a.	3.8359 (2.4112)
OLD percent	n.a	n.a	n.a.	7.8922 (1.4876)
SAVE rate	n.a.	n.a.	n.a.	-6.7664 (2.9089)
FERTILITY rate	n.a.	n.a.	n.a	-0.8910 (4.0315)
ACTIVE elderly	n.a.	n.a.	n.a	1.9436 (1.2122)
R^2	0.2831	0.9030	0.8248	0.8644
$RBAR^2$	0.0550	0.8778	0.7791	0.8290

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APPENDIX A

A Life-Cycle Framework for Social Security Analysis

The purpose of this appendix is to formulate a simple theoretical model for analyzing retirement behavior and the financing of retirement. The model is highly simplified and variables and relationships other than those directly involved in the retirement decision are omitted. While more complicated models could be constructed along similar lines, the purpose of this exercise is not to present a complete description of the retirement process, but rather to clearly identify relationships between the social security system and different aspects of the retirement decision.

The model divides the lives of individuals into two periods, denoted as y (for young) and o (for old). While young, individuals are assumed to work and have children. When old, they are assumed to spend some part of their life in retirement. Lifetime welfare is assumed to depend on consumption in the two periods, the extent of retirement, and the number of children:

$$U = U(c_y,\ c_o,\ \rho,\ \lambda) \tag{1}$$

where U = utility
c_y = consumption while young
c_o = consumption while old
ρ = proportion of old age spend in retirement
λ = number of children

The utility function is then maximized, subject to a lifetime budget constraint which requires the present value of lifetime expenditures (the left hand side of equation 2) to be equal to the present value of lifetime income (the right hand side of equation 2):

$$(2)\qquad c_y + bw_y(1-t_y)(1-\theta) - + s_y c_o/1+r =$$

$$w[(1-t_y)(1-\theta) + s_y\{(1-\quad)w_o(1-t_o) + B + -s_c w_c(1-t_y)\theta\}/1+r]$$

where b = proportion of working time lost per child raised
w = wages while young, before social security taxes but after all other taxes
w_o = ratio of wages while old (before social security taxes but after all other taxes) to wages while young
w_c = ratio of children's expected wage to wages while young
t_y = social security tax rate on the income of young workers
t_o = social security tax rate on the income of old workers, including benefits lost due to delayed retirement
B = ratio of social security benefits to wages assuming retirement at the normal retirement age
θ = proportion of child's income contributed to parents (intra-family transfer ratio)

r = return on financial saving between y and o periods
s_y = survival rate of young people to old age
s_c = survival rate of children to working age

The expenditure terms cover (1) consumption while young, (2) cost of child raising activities, and (3) consumption while old. The income terms represent (1) wages while young, after social security taxes and contributions to parents, (2) wages while old and still working, (3) social security benefits, and (4) support received from children.

The benefits received from social security, B, depend on the structure of the social security program. In a strictly "pay-as-you-go" system, for example, benefits per old participant would be equal to total revenues:

$$B = \{\lambda^* s_c t_y w_c + s_y \rho t_o w_o\}/s_y \tag{3}$$

where λ^* = average number of children for all households

Note that the number of children variables in equations 2 and 3 differ; in equation 2, the relevant variable is the household's own family size, in equation 3, the relevant variable is the average family size for all households covered by social security.

In addition to the lifetime income constraint, households may be also subject to so-called "cash flow" constraints -- that is, they may be unable to borrow against future income. If binding, the cash flow constraint implies that expenditure while young is equal to income while young:

$$c_y + bw_y(1-t_y)(1-\Theta)- = w_y(1-t_y)(1-\Theta) \tag{4}$$

The solution of the model subject to equations 1-4 is similar to its solution subject only to equations 1-3, except that the interest rate used to discount second-period revenues and expenditures in the cash-flow-constrained case is determined by the ratio of marginal utilities of consumption in the two periods. This ratio will exceed the financial rate of return to capital if the household wants to, but is unable to, borrow against future income.

The model outlined can be rewritten as a strict demand model where the consumption levels of four "goods" (consumption while young, consumption while old, leisure in retirement, and children) are determined with reference to their prices and total income. Specifically, equation 2 can be rewritten as a standard budget constraint:

$$P_y c_y + P_o c_o + P_{\rho\rho} + P_{\lambda}^{d} = W \tag{5}$$

in which the prices of the consumption goods are defined as:

$$\begin{aligned} P_y &= 1 \\ P_o &= 1/1+r \\ P &= s_y w_o(1-t_o)/1+r \end{aligned} \tag{6}$$

$$P_\rho = w_y(1-t_y)(1-\theta)b - s_y s_c w_c(1-t)\theta/1+r$$

and lifetime wealth is defined as:

$$W = w[(1-t_y)(1-\theta) + s_y\{w_o(1-t_o) + B\}/1+r]. \tag{7}$$

An explicit solution of the demand equations implied by the life-cycle model requires that a specific form be selected for the welfare function represented in equation (1). Once such demand equations are derived, it is also possible to solve for the savings implicit in the solution of the household optimizing problem:

$$s = (1-t_y)(1-\theta)(1-\lambda b) - D_y[W,w,P_y,P_o,P_\rho,P_\lambda] \tag{8}$$

where s = ratio of savings while young to wages while young
D_y = demand function for consumption while young

Thus, the household savings rate depends negatively on: the social security tax rate, the intra-familiy transfer ratio, fertility (or more fundamentally, the factors that affect fertility), and consumption while young (or more fundamentally, the income and relative price variables that determine consumption while young).

To determine national savings behavior, the savings relationship shown in equation 8 has to be aggregated over contemporaneous young and old households. This requires further assumptions about the evolution of the economy over time. If the economy does not change from one period to the next (which implies zero population growth as well as constant wages) then within any given period the savings of the young will exactly offset the dissavings of the old. In such an economy the stock of capital assets would remain constant, although its ownership would be transferred from the old to the young. If the economy does grow, due to population or productivity increase, then the savings behavior of the young (the members of the later and therefore larger and/or more prosperous generation) will dominate that of the old.

Suppose, for example, that wages grow at a rate of g. Assuming that nothing else changes from one period to the next, and that the income elasticities of all four goods are unity, then households will increase consumption but keep retirement and fertility behavior unchanged. Total wages, savings, and consumption will expand both because of higher wages and population growth, or by the factor: g + R. The national savings rate will be then given by:

$$S = s[N_y/(N_y+w_o(1-\ )N_o)](1 - 1/g+\lambda) \tag{9}$$

where S = national savings rate
N_y = number of young households
N_o = number of old households

Thus, due to aggregation over young and old households, the determinants of national savings include the growth rate of the economy (the sum of productivity and population growth rates), the ratio of young households to the total labor force in addition to the list of variables that determine the savings behavior of individual households. The determinants of household savings will affect national savings with like signs provided that g+ 1, that is, provided that the economy's growth rate is positive.

For discussion purposes, the model outlined above was solved using a constant elasticity of substitution (CES) utility function under the following parameter values:

$P_y c_y/W = 0.65$
$P_O c_O/W = 0.15$
$P_\rho \rho/W = 0.10$
$P_\lambda \lambda/W = 0.10$

$w/W = 0.80$
$w_O w/W(1+r) = 0.15$
$Bw/W(1+r) = 0.05$

$bw(1-t_y)(1-\theta)/W = 0.15$
$s_y s_C O w_C w/w(1+r) = 0.05$
$\theta = 0.10$

Solutions were calculated for CES substitution elasticity values ranging from 0.5 to 2.0. The elasticities of saving, fertility, and retirement with respect to the variables w_O, w_C, r, s_y, s_C, O, b, t_y, t_O, and B are presented in Table 1 both for the general optimization problem presented in equation 2 and for the same problem, but also subject to the cash flow constraint of equation 4.

THE REFORM OF THE SOCIAL SECURITY SYSTEM FOR THE AGED IN CHINA

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In China great importance has been attached to the labor insurance, social welfare provision, and health care for the aged. Before the founding of the People's Republic, there were six conferences of the National Labour Union; at five of these conferences, the issue of labor insurance was specially discussed. After the 1949 revolution, special stipulations concerning this issue were incorporated into the Common Program[1] and all the constitutions. In February 1951 the State Council issued the "Rules of Labor Insurance of the People's Republic of China" which were later revised and amended in 1953, 1958, 1978, and 1983. These rules and stipulations have played a major role in guaranteeing employees the basic means of living when they are old or have lost the ability to work due to poor health. They also guarantee basic support for widowed persons or the single elderly who have no responsible kin.

Yet, it was only in early 1985 that a plan to establish a social security system was initiated. Now social security has been officially incorporated into the "Seventh Five-year Plan for Social and Economic Development," indicating that a socialist social security system with Chinese characteristics will develop during the period of the seventh five-year plan. No doubt, the increasing attention to this issue should be viewed as the outcome of social and economic development. Furthermore, help from abroad has played an important role. For instance, special suggestions for establishing a social security system were put forward in the World Bank report "China: The Issue of Long-term Development and Alternatives" (February 15 1985). The report suggested that an effective, economically feasible social security system applicable to the middle and low income countries should be worked out in the light of the experiences of Western developed countries. At the same time Mr. Zhu Chuanyi, head of the Division of Social Studies of the Institute of American Studies under the Chinese Academy of Social Sciences, in an article summarizing the opinions of several American scholars, introduced the following viewpoints: (1) The government should function as a source of last resort in matters of financial provision; (2) there should be diverse forms of security; (3) the traditional roles played by family and neighbourhood should not be neglected; (4) unemployment insurance should be set up; and (5) a minimum standard of subsistence should be defined.[2]

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[1] The basic political program which was adopted on September 29, 1949, at the first plenary session of teh Chinese People's Consultative Conference and functioned as a constitution until 1954. [Editors]

A leading official of the State Council commented on the article by Zhu with the following words: "The issue of social security will inevitably arise in the midst of our on-going economic reforms and should be tackled as one of the issues in the reforms. Specific efforts should be made to conduct research in this regard. The very first thing is to gather facts. In addition, reform proposals should be mapped out." Since then, the nature of social security, the experiences of social security systems in the West, and the ways of establishing a social security system with Chinese characteristics have been widely discussed. In the following sections, I will discuss the items of social security relevant to the issue of aging.

I. Social Insurance for the Aged

Social insurance is the core of the social security systems in other countries. In China the emphasis should be placed on the establishment and improvement of various insurance systems.

First, it is felt that retirement funds should be arranged according to a unified plan. Before the Cultural Revolution, the retirement funds for employees were regulated according to a unified national plan; 3% of the total wage bill of each enterprise was deducted for a labor insurance fund and redistributed by the All China Trade Union among different regions and industries. However, after 1966 trade unions no longer had this function, and for three years no organization assumed the management of pensions. In November 1969, the Military Control Commission in the Finance Ministry issued an instruction which defined the labor insurance funds as a non-operating expenditure to be covered by individual enterprises (since 1980 the enterprises with extended autonomous power have used part of their retained profits as retirement funds). Thus there have been no nationwide labor insurance funds since 1966. The pensions for employees were provided by individual enterprises, and labor insurance became the responsibility of each enterprise....

Pension pressures on some enterprises are intense but moderate on others. For example, in the textile industry in Shanghai, there are 0.45 million employees and 0.23 million retirees. The pension expenditure is equal to 34.5% of the total amount of salaries paid to the work force. The burden of pensions is even heavier in some neighbourhood collectives in Shanghai.

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[2] Cf. Shijie Jingji Daobao (The World Economic Herald), February 18, 1985

Currently these enterprises have 0.26 million employees and 0.18 million retirees; pensioners equal 69% of the work force. In the Second Silk Factory of Wuxi in Jiangsu Province there are 1470 retirees but only 1,308 employees. The pension expenditure is equal to 89% of the salary expenditure for the work force. In contrast, expenditures on pensions in the chemical, electrical, and metallurgical industries-- as well as instrument-making enterprises--in Shanghai are equal to only 12 to 15% of salaries. The pension expenditure in the electronics industry of Wuxi is equal to only 5% of total salaries.

Delegating responsibility for pension expenditures to individual enterprises is not conducive to the on-going economic reforms. One of the major goals of the reforms is to enliven the enterprises, give the enterprises more autonomy in management, and leave them responsible for both profits and losses. If an enterprise has a large number of retired workers, even if the operation of the enterprise is optimal and the quality of its management greatly improved, it may still end up with low profits or even trapped by deficits. This will affect the employees' morale. Moreover, the deficit of an enterprise will not only affect the income of those in the workforce, but also those who are retired. It is now under investigation whether or not the retirement funds should be operated in a unified way--namely, with each enterprise turning over a fixed percentage of the wage bill for unified distribution and then receiving monthly pension appropriations from the central organization.

Experiences from pilot programs in the past two years have shown that the advantage of this method is that it evens out expenditures among different enterprises, reactivates morale, and improves enterprise efficiency. Unified appropriation of retirement funds guarantees all pensions regardless of the current performance of any one enterprise. It makes possible an objective evaluation of the performance of different enterprises, promoting competition and improving the quality of management.

However, unified operation of retirement funds can only redistribute the pension load among different enterprises; it does not change the fact that pension funds are provided by enterprises. Thus, it is basically a transitional step in the course of reform. In the future, responsibility for pensions will first be undertaken jointly by the government, the enterprises, and the individuals. Then there will be a gradually shift to the individuals in the form of pension insurance, with the government providing only necessary subsidies. In this way the pension insurance system can really be established.

Second, retirement insurance should be differentiated into several parts. For a long time, labor insurance in China has been financed by the government or the enterprises; individuals have not shared the load. The experiences in other countries show that efforts to make the government or the enterprises provide all the labour insurance have resulted in disaster. In China, the social insurance funds should come from the government, various units, and individuals--with the major part coming from the income of the enterprises and profit-making undertakings. The retirement insurance for the employees of the government should be divided into basic insurance and individual insurance. The retirement insurance for employees of productive enterprises should be divided into three parts, namely, basic insurance, supplementary insurance from the enterprise, and individual insurance. As to whether or not the individuals should immediately begin to buy retirement insurance is still an open question. The wage system in China is based on low salaries. Currently 74% of employees' income is used for food and clothing. They will have difficulty drawing on the remaining 26% to buy retirement insurance. Nevertheless, basing retirement insurance on individual income should be the direction of future developments. It may already be feasible to levy a social security tax on the self-employed individuls in urban and rural areas and to set up a minimal retirement system for them.

Third, the retirement insurance system should be compatible with various existing wage systems. The present retirement insurance is exclusively a benefit for those who have permanent employment. Thus permanent employment is the prerequisite for retirement insurance. Furthermore, the pension system established in the 1950s is mainly for workers in state-owned units. Some "big collectives" owned by units equal or superior to the level of a county followed the model of state-owned units and set up their own retirement systems. But many "small collectives" owned by units below the level of the county, and all self-employed individuals, have never been covered by any retirement system.

Over the past few years, our country has pursued a policy of "opening to the outside world and enlivening the domestic economy." Consequently, the ownership situation has changed, and the work force in the urban collective enterprises and private sector has increased. In 1984, the total number of employees in urban collective units was 12 million, and by the end of September 1985 the total number of self-employed individuals was 16 million. The number of workers in joint ventures and enterprises with full foreign investment has also risen. In addition, in every type of economic organization, there are different wage systems; and even in an enterprise there may be different types of workers--such as permanent employees, contract workers, and temporary workers--who each receive different insurance benefits. In view of this diversity in the ownership and employment systems, it is necessary ... to set up or improve the labor insurance systems for the collective units, the self-employed individuals, the joint ventures, and foreign capital enterprises.

Fourth, an unemployment insurance system should be established. The focus of the on-going economic reforms is on revitalizing the enterprises through economic competition. In the face of competition, poorly run enterprises with low efficiency or large numbers of employees may be closed, suspended, or merged with others. Some economically inefficient small urban and rural collective enterprises, self-employed individuals, or small private enterprises may also fail. In view of this situation, a bankruptcy law is being worked out in which the problem of temporary unemployment should be taken into account. In addition, in the course of developing the national economy, the demand for labor will vary in different sectors, and the number of dismissed employees will differ from unit to unit. The emergence of a labor market will cause some of the permanent workers who have been "eating from the big pot" to lose their jobs. It is necessary to give training to these people, many of whom are aged, so that they will qualify for employment in other units. Under such circumstances, it is essential to establish an unemployment insurance system. Funds for this purpose can be appropriated primarily from the government and supplemented by the enterprises and individuals. In the future, a social security tax should be introduced, step by step, as the means of supporting the aged and the unemployed.

Fifth, a health insurance system should be set up. The current medical system in China consists of the public health services for government employees, the labor insurance fund for enterprise employees, and the cooperative medical service. All medical expenses (including those for medicine) of employees in government departments and institutions, various social organizations, and state enterprises are covered by the government or their units. After retirement, they are still entitled to this benefit. The aged whose children work in government departments or enterprises are treated as dependents and receive a 50% discount on medical expenses. The cooperative medical service is run for some urban and all rural residents.

As the number of elderly has increased, medical expenses have risen. Waste resulting from a public health service that covers all medical expenses has also become more and more evident. In some areas and units, pilot reforms have been carried out. The new method is to give each person a medical allowance. Any expenses that exceed the allowance are covered by the employees with some possibility of reimbursement. But should medical expenses fall below the amount, the person can keep the prepaid money. The method, however, is not flawless. A health insurance system should be set up, where the units contribute a certain percentage of the total wage bill as a fund for medical insurance and individuals also buy a certain amount of insurance from the fund. Medical expenses should be mainly covered by the insurance institutions and supplemented by individual resources. This should also apply to retirees. In the countryside the cooperative medical service should be gradually replaced with a health insurance system. Only when the health services are separated from health insurance can the medical sector be kept in line with current reforms and develop further.

II. Social Welfare for the Aged without Responsible Kin

In China the aged without responsible kin are the major focus of government welfare work. Generally, these people fall into two categories: (a) those who have neither children nor their own financial resources and (b) those who have no children but have a pension. In addition there are some elderly who have children but these children live in other parts of the country or abroad. In the future, the number of those without any resources of their own will decrease, and the number of those with pensions will increase. Furthermore, due to the implementation of the policy of "one couple one child," the number of elderly who have children but can not depend on them will increase during the years to come. Welfare policies with regard to these people have five components.

First, social relief. Normally the aged without their own resources are supported by government subsidies. The amount is subject to constant readjustments so that these people's living conditions will not fall below the average standard of living.

Second, goverment welfare homes. Departments of the Ministry of Civil Affairs run a number of welfare-homes, mostly for those without their own financial resources. Some elderly with pensions and some mentally or physically disabled aged also can be accommodated. The policy of "accommodaton plus treatment" has been pursued in these institutions.

Third, old age homes and collective service centers. These institutions are scattered in urban neighbourhoods and rural townships and are supported by the collective units. These homes and centers are small in size and diverse in form. They are mostly located at a distance convenient to the aged and are surrounded by other residents' houses in a congenial atmosphere which appeals greatly to the lonely elderly.

Fourth, neighbourhood groups organized to care for single elderly. Normally, they consist of a head of the neighbourhood committee, an activist, and, in some cases, a retired worker in the neighbourhood. These groups tend familyless elderly who can no longer care for themselves. Although most care-takers are volunteers, they work on a regular basis. Their noble deeds have moved and educated a lot of people. This is a new type of personal relationship.

Fifth, the "five guarantees" in the countryside. Elderly in the countryside who have no responsible kin are cared for in old age homes or on the basis of individual help. People in households of the "five guarantees" receive food, housing, clothing, medical care, and a funeral provided by the collective units. The government provides some subsidies for those economically backward townships and villages which have difficulties ensuring that the "five-guarantee" households meet the local standard of living. In addition, there are some groups providing regular care for the aged without responsible kin in the countryside.

In general, these several forms of welfare work have been carried out through a network of multiple layers in cities, districts, counties, townships, neighbourhoods, and villages. It is characterized by an integration of government and collective efforts, combinations of voluntary and organized activities, low costs, diversified services, and extensive benefits.

In order to facilitate the current economic reforms, the following aspects should be taken into account in social welfare work. First, joint efforts should be made by the government and the society with the latter assuming the major responsibility. Government financial resources are limited and can not cover all the support for the aged. The welfare homes sponsored by the govenment are mainly designed to serve as models. Collective and social efforts to run small-scale homes or centers for the elderly in neighbourhoods and townships should be encouraged and facilitated. Second, formal group care should be combined with individual care, with individual care as the major form. A large number of elderly without kin are home-oriented. They would not like to move from where they have been living to an old age home. Thus, more attention should be centered around providing daily care on an individual basis, and more efforts should be made to organize local groups of care-givers. Third, while expanding the scope of service remains the major concern, improving the quality of such care should also receive appropriate attention.

III. Family Security for the Aged

The fine tradition of respecting the aged and caring for the young in Chinese families dates back to time immemorial. Under the socialist system, this tradition should be carried forward and integrated with the new social security system. In China, social welfare homes and old age homes are established mainly to accommodate elderly without responsible kin. Sharing a home with their children is still the predominant way of living for most Chinese elderly. Hence, the family remains the basic unit as well as the primary guarantee of an aged person's livelihood.

According to a survey on the family conditions of the aged 60 and over as of May 31, 1983 in the urban areas of Shanghai (conducted by the faculty members and students of the College of Liberal Arts, Shanghai University), most of the aged lived in stem families with their children or grand-children.[3] With regard to the attitudes of the young toward the old, most of the aged thought they were respected.[4] When ill, the elderly in this study reported that they received care from relatives.[5]

In the countryside of China, the family is the basic unit of production, and 90% of the aged are cared for by their families.... The aged need not only financial resources for their living but also daily care and spiritual comfort. Living with their families, the aged can receive care and protection. At the same time, they can also provide help to their families within the scope of their abilities.

It seems to me that it is not appropriate to advocate nuclear families of the Western type in China. It is not in line with the Chinese historical tradition, nor the socialist moral norms, nor the present situation in China. Some far-sighted people in the West hold that the Asian family pattern exemplified by Chinese families is the model for the world in tackling the problems stemming from population aging. The Asian pattern is basically characterized by a family of three generations living under the same roof. In China, how to incorporate the socialist elements into such family patterns remains a particularly important issue in need of further study. In Singapore, "three generations living under the same roof" has been greatly encouraged since 1982. Premier Lee Kuan Yu pointed out in his New Year's speech that 3,000 years of Chinese history prove that "three generations living under the same roof" is a viable way of living... The Housing Development Bureau in Singapore has taken steps to encourage such a family pattern. For example, it has promised that those who are willing to live next door to their direct relatives will be given priority in housing assignments. In Japan, the

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[3] In this survey, 19.9% (N=122) lived in households of one generation, 31.65% (N=194) in households of two generations, 43.07% (N=264) in households of three generations, and 4.24% (N=26) in households of four generations. These figures were originally displayed as table 1. In terms of household form, 7.18% (N=44) lived in one-person families, 34.42% (N=211) in nuclear families, 43.39% (N=266) in stem families, and 8.48% (N=52) in joint families. These figures were originally displayed as table 2. [Editors]

[4] 50.75% (N=311) felt the attitudes were respectful, 40.78% (N=250) felt the attitudes were ordinary, and 5.22% (N=32) felt the attitudes were not respectful. These figures were originally displayed as table 3. [Editors]

[5] 45.68% (N=328) received care from a spouse, 25.35% (N=182) from a son or son-in-law, 21.45% (N=154) from a daughter or daughter-in-law, and 3.76% (N=27) from gradchildren. These figures were originally displayed as table 4. [Editors]

Economic Planning Bureau published a report in November 1984 suggesting that the government invest in constructing buildings for three-generation families or take steps to help the different generations of each family live close to each other.

Today, efforts are being made in China to explore how to develop, on the basis of Chinese tradition and present social conditions, a new type of socialist family pattern of respecting the aged and caring for the young in a harmonious atmosphere. This will be an integral part of the social security system with Chinese characteristics.

PART V

ECONOMIC AND SOCIAL DEVELOPMENT IN CHINA: THE ROLE OF THE AGED

ECONOMIC DEVELOPMENT AND POPULATION AGING

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.... Economic growth and population aging are two independent processes; however, they interact with each other. Generally, higher economic growth is associated with an aging population. The countries in the world can be divided into three groups based on their level of economic development and the extent of population aging.

In the first group are the economically advanced countries of Europe, North America, Oceania, and some parts of Asia. In these countries, average per capita GNP is above 10,000 US dollars; population growth rate is low; and the population is significantly "aged," with the people 65 and above accounting for over 10% of the total population. In some European countries, the percentage is about 15%, and in a few of them, it exceeds 16%.

In the second group are countries at the point of economic take-off. Average per capita GNP in these countries is in the middle range and income distribution is quite uneven. The process of demographic transition has begun, and the population growth rate has sharply declined. The percentage of the aged in the total population ranges from 5 to 10%. Population aging has become a discernible phenomenon and is gaining significance.

In the third group are the economically backward or underdeveloped countries where the average per capita GNP is rather low, and the population is rapidly expanding. In these countries, children account for about 50% of the population and the aged for only 2-3%. In the immediate future, population aging will not be a serious problem.

A comparison can be derived from the folllowing table:

Group	Country	Per Capita GNP	% of Aged Above 65
I	Netherland	13,820	15
	Sweden	12,400	16
	W Germany	11,420	15
	Japan	16,360	14
	Switzerland	10,100	10
II	Singapore	6,620	5
	Agentina	2,030	8
	Uruguay	2,490	11
	Chili	1,870	6
III	Kenya	340	2
	Ethiopia	140	3
	Bengladesh	130	3
	Zaire	160	3

Source: Population Data Sheet 1985, Population Information Bureau

In general, an aging population is positively correlated with the level of economic development. However, it is difficult to set up a clear correlation in quantitative terms, since economic growth and population increase do not form a functional relation that can be expressed in a simple linear equation. The effect of economic growth on demographic change, especially on the process of population aging, is indirect--occurring through a multitude of socio-economic factors. Generally, economic growth improves the living standard of the whole population and consequently leads to a decline in the birth and mortality rates and an extension of the average life span. In this way, as the population growth rate falls, the number of the aged and their percentage in the total population rise, and the population as a whole gradually becomes aged. This process usually take a long period of time. In other words, the impact of economic growth on population aging is gradual. Under the condition of slow change in demographic process without much fluctuation in birth and mortality rates, the process may take as long as half a century or even more. With steep declines in birth and mortality rates, the change may be more rapid, and the effect of economic growth becomes significant after about 20 years. In addition, the change in demographic process is related to other factors, although economic growth remains the key factor.

Since the 1960s, birth control has received great attention in many countries, especially in developing countries. Beginning with the 1970s, many developing countries initiated birth control policies, and in some of these countries there have already been some results. Population growth rates have sharply declined, and it appears that age composition will change in the course of time. Thus, in some countries the implementation of population policies has had an effect on the aging of the population.

Yet, implementation of population policies is conditioned by on-going social and economic development. Family planning programs should be integrated with the planning of social and economic development and based on economic development. Only in this way can the anticipated goals of birth control be fulfilled. In fact, it should be pointed out that an aging population results from the interaction among various social, political, and economic factors in which economic growth is the major determinant. On the other hand, an aging population will profoundly affect further economic development. Thus it is necessary and useful to relate economic growth to the process of population aging in our analysis.

As is widely observed, since 1949, China has suffered several economic setbacks, and its population growth rates have fluctuated.... The following table shows the increase in GNP and national income over the past three decades.

Year	Absolute Value (in 0.1 billion yuan)			Index (1952 as 100)	
	GNP	National Income	Per Capita National Income (yuan)	GNP	National Income
1952	1,015	589	104	100	100.0
1957	1,606	908	142	170.9	153.0
1965	2,695	1,387	194	258.2	197.5
1978	6,846	3,010	315	725.8	453.2
1979	7,642	3,350	346	787.5	484.9
1980	8,531	3,688	376	853.7	515.9
1981	9,071	3,940	396	977.8	586.1
1983	11,125	4,730	464	1,078.5	643.5
1984	13,004	5,643	548	1,227.3	732.9

Note: the absolute values in this table are calculated on the basis of present prices and the indices are calculated according to comparable price. The 1984 figures are preliminary.
Source: China: A Statistical Survey in 1985

During the same period the total population doubled in spite of some yearly fluctuations. The following table indicates the changes in total population, the birth rate, the mortality rate, and natural growth rates.

Year	Total Population (at the end of the year) (in 10,000)	Brith Rate (%)	Mortality Rate (%)	Natural Growth Rate (%)
1949	54,167	36.0	20.0	16.0
1952	57,482	37.0	17.0	20.0
1957	64,653	34.0	10.8	23.2
1965	72,538	37.9	9.5	28.4
1978	96,259	18.3	6.3	12.0
1979	97,542	17.8	6.2	11.6
1980	98,705	----	----	----
1981	100,072	20.9	6.4	14.5
1982	101,541	21.1	6.6	14.5
1983	102,475	18.6	7.1	11.5
1984	103,475	17.5	6.7	10.8

Source: China: A Statistical Survey in 1985

The above table suggests that in the 1950s and the 1960s, both birth rates and natural growth rates were very high; but by the end of the 1960s, they had sharply declined. Due to the drastic changes in the natural demographic process, the age composition underwent some significant changes. The following table gives the percentages of the people 65 and over in the total population in all the previous national censuses.

Year	% of Those 65 and Over in Total Population
1953	4.4
1964	3.54
1975	4.81
1982	4.91

Source: (1) For 1953, 1964, and 1982 a National Census. For 1975 an estimate based on data from in 48 cities, 20 urban districts, and 117 counties.

As the result of high birth rates in the 1950s, the percentage of aged in the total population declined in the early 1960s. After 1964, because of the implementation of family planning programs, the percentage went up rapidly, and the population was characterized by a trend toward aging. It is estimated that as the policy of family planning is carried on further, the percentage of the people 65 and over in the total population may increase to around 7% by the end of this century, placing China in the category of nations with an aging population.

Obviously, the rapid changes in population age composition are to a great extent the outcome of the declines in birth rate brought about by the family planning policies. However, the extent to which birth rate declines fluctuate across the nation depends on the efficacy of local implementation. The efficacy of birth control policy is conditioned by the level of economic development. In general, in the areas with higher levels of economic development, family planning is carried out rather successfully; the birth rate has declined rapidly and aging of the population has begun earlier. Shanghai is an example of such an economically advanced area....

Comparing the indicators of the increase in GNP and national income of Shanghai with those of the nation as a whole, we can see the leading position of Shanghai in the development of the national economy:

	Absolute Value (in 0.1 billion)						Index (1952 as 100)			
	GNP		National Income		Per Capita National Income		GNP		National Income	
	Nation	SH	Nation	SH	Nation	SH	Nation	SH	Nation	SH
1952	1015	85.84	589	32.64	104	388	100	100	100	100
1957	1606	151.37	908	63.83	142	654	170.9	187.4	153	238.6
1965	2695	267.76	1387	103.28	194	947	258.2	362.2	197.5	493.4
1978	6846	592.43	3010	245.51	315	2247	725.8	1010.8	453.2	1742.1
1979	7642	645.62	3350	282.57	346	2354	787.5	1107.4	484.9	1929.4
1980	8531	698.84	3688	282.42	376	2479	853.7	1174.6	515.9	2077.3
1981	9071	729.24	3940	290.94	396	2520	893	1225.8	514.2	2180.8
1982	9963	749.4	4261	294.99	423	2518	977.8	1287.7	586.1	2279.3
1983	11125	785.11	4730	303.14	464	2550	078.5		643.5	
1984	13004	867.38	5643	341.2	548	2845	127.3		732.9	
1985	16242	1026	5765	399	647	3278.6				

In general the GNP and national income in Shanghai over the past three decades have increased steadily at faster rates than the nation as a whole. In particular, the average per capita national income is five times higher than that of the nation as a whole. The important position of Shanghai in the development of the national economy can be further indicated by the following figures: in 1984, one ninth of the total industrial output, one third of the volume of freight handled, one sixth of the exported commodities, and one seventh of the financial income in the nation came from Shanghai. Thus, in relative terms, Shanghai is the economically most developed area in the nation.

With the significant development of production, the general consumption level of Shanghai residents has risen over the years. For a very long time, it has been higher than the national average as well as that of the non-agricultural population. In addition, the rate of improvement of Shanghai has been far higher than the national rate:

Average Consumption Level of Residents

Year	National		Non-Agricultural		Shanghai	
	value (yuan)	index (%)	value (yuan)	index (%)	value (yaun)	index (%)
1952	102	100	205	100	219	100
1957	117	115	226	110	242	111
1965	125	123	237	116	262	120
1978	175	172	383	187	216	190
1980	227	223	468	228	544	248
1984	327	321	584	285	729	333

Source: calculated on the basis of the data in China Statistical Abstracts 1986 and the 1984 Shanghai Statistical Yearbook

Economic growth promotes social development. For a long time, Shanghai has been in a more advantaged position in matters of social welfare and cultural life than other parts of the country. This is indicated in the following two tables:

Medical Institutions, Hospital Beds, and Medical Workers in Shanghai

	1949	1984	1984 as % of 1949
Medical Institutions	358	420	117.32
Hospital Beds	10,033	53,372	531.96
Medical Workers,	17,752	88,391	479.92
(including			
technicians&	12,983	62,204	479.12
doctors	8,139	23,899	293.51

Source: calculated on the basis of the data in the Shanghai Statistical Abstracts 1982 and the 1982 Shanghai Statistical Yearbook

Number of Students in Various Full-time Schools			
	1949	1984	1984 as % of 1949
Institutions of Higher Learning (in 10,000)	2.02	8.99	455.05
Technical or Special Secondary Schools (in 10,000)	0.72	4.48	622.22
Middle Schools (in 10,000)	9.73	49.18	505.45
Agricultural Middle Schools and Vocational Schools (in 10,000)	—	3.07	—
Primary Schools (in 10,000)	48.17	83.47	173.28

Source: calculated on the basis of the data from the Shanghai Statistical Abstracts 1982 and the 1984 Shanghai Statistical Yearbook

In addition, the various indicators of demographic change show Shanghai to be ahead of the rest of the nation. In particular, the infant mortality rate in Shanghai has been lower than that for the nation as a whole. In 1982, it was only 1.484%. The average life expectancy is also higher than the national average. In 1982, it was 71.77 for men and 76.25 for women.

The relatively high level of economic and social development and the relatively low infant mortality rate are conducive to the implementation of family planning in Shanghai. In recent years, the percentage of women covered by family planning programs has increased from 92.7% in 1982 to 99% in 1985, much higher than the national average. Since the 1960s, the TFR of the women of child-bearing age has declined sharply.

A Comparison of the TFR of Women of Child-bearing Age in Shanghai and the National Average

	1940s	1950s	1960s	1970s	1980	1981
National Average	5.44	5.87	5.68	4.01	2.24	2.63
Shanghai	3.99	4.75	2.83	1.44	0.81	1.14

Sources: An Analysis of the One in a Thousand Fertility Survey: Collection of Materials of the Shanghai Survey of Fertility Rate;

The sharp difference in TFR leads to differences in the natural population growth rate between Shanghai and the nation as a whole.

Average Yearly Natural Population Growth Rate (%)

Period	National	Shanghai (calculated on the basis of natural growth rate)
1953-57	23.79	38.70
1958-62	8.04	32.03
1963-65	25.32	26.57
1966-70	27.29	12.77
1971-75	21.75	7.27
1976-80	13.25	5.55
1981-85	11.7	8.38

Sources: the 1983 and 1984 China Statistical Yearbook, the 1983 and 1984 Shanghai Statistical Yearbook, the 1985 Report of National Economic and Social Development, Jiefang Ribao (Liberation Daily), February 25, 1986

The figures in the above table show that the natural population growth rate in Shanghai in the 1950s was far higher than that of the nation. By the 1960s, it began to decline and then fell to a level much lower than that of the nation. In the early 1980s, it rose again. Because of the drastic decline in the natural population growth rate within a very short period, the age composition in Shanghai has significantly changed.

Changes in Some Comprehensive Indicators of
Age Composition of the Population in Shanghai

	1953	1964	1973	1979	1982
Percent of Those 60 and over in Total Population	1.97	3.6	5.92	7.15	7.43
Percent of Those between 0 and 14 in Total Population	33.02	42.31	26.28	14.76	18.16
Median Age (years)	23.13	18.12	24.36	29.76	29.41
Old as Percent of Young	5.98	8.52	22.51	48.44	41.84

Sources: calculated on the basis of the data from the First, Second and Third national Censuses and the Yearly Censuses in 1973 and 1979.

From the above table we can see that the changes in the age composition of the population in Shanghai have proceeded through three phases.

First, between 1950 and the first half of the 1960s, the age compositon was still young. In 1953, the aged accounted for 1.97% of the total population. By 1964 the percentage had increased to 3.6%. During the same period the percentage of children rose from 33.02% to 42.3%, and the median age declined from 23.13 to 18.12. All these indicators are characteristic of a young population.

Second, between the mid-1960s and the first half of the 1970s, the age composition was characterized by an increasing number of adults. In the early 1960s, family planning programs were widely implemented in Shanghai and accepted actively by a large number of couples of child-bearing age. The birth rate in the city declined year by year and the age composition gradually changed. In 1973, the aged were 5.92% of the total population of the city, children between 0 and 14 were 26.28%, the index of aging, namely, the ratio of old versus young increased to 22.51, and median age was 24.36....

The third phase started in the mid 1970s when the age composition in Shanghai underwent drastic changes. This period is characterized by mortality rates below 8% and birth rates below 14%. This fertility rate among women of child-bearing age in urban and suburban Shanghai is far below that of the nation. Because of the consistently low birth, mortality, and natural growth rates, the age composition of the population in the city has drastically changed and the population is becoming aged. In 1979, the percentage of the aged in the total population of Shanghai increased to 7.15%; that of the children between 0 and 14 was 14.76%; the index of aging was as high as 48%, and the median age was 29.76. In view of such a situation, it can be concluded that the age composition of the population in Shanghai has completed the transition from an "adult" type to an "aged" type.

Shanghai is the first city in the country to become an area of aged population. The transition from a young population to an aged population took only 15 years. This is an unprecedented case of demographic change in the world. No doubt, the policy of birth control played an important part in this process. However, the effects of the relatively high level of economic and social development in Shanghai should not be underestimated. The case of Shanghai once again shows that birth control policy should be combined with the policies of economic and social development. Though aging is not the goal of birth control policy, it is embedded in such a policy because of the changes it produces in a population's age composition....

Today, the people age 60 and over in Shanghai number 1.591 million, of which 0.991 million are at least 65 and 0.124 million are 80 or older. Aging has become a pressing issue. Looking ahead, we can see that the population of Shanghai will continue to age and thereby have an important impact on social and economic development.

The following table shows the predictions for future growth in the aged population of Shanghai....

Year	65 and Older (in million)	60 and Older (in million)	Retired People (male at 60 female at 55) (in million)
1985 (estimated)	0.9911	1.591	1.8698
1990	1.2055	1.912	2.1924
1995	1.4264	2.2198	2.3861
2000	1.6362	2.2803	2.4354

Source: "A Short-term and Median-term Prediction of Population Growth in Shanghai and Control Measures," by Chen Xianhuai, Shi Yuhong, and Yan Fufen

According to these figures, all the groups of elderly people will greatly increase in number by the end of this century. Measured in relative terms, the tendency toward an aging population in Shanghai is even more significant.

Population Aging in Shanghai from 1985 to 2000				
	1985 (estimated)	1990	1995	2000
Index of Aged Population (%)	8.11	9.53	11.16	12.84
Index of Children (%)	18.43	19.76	19.32	15.94
Ratio of Old Versus Young (%)	44.01	48.22	57.74	80.91
Mean Age of Total Population (years)	33.41	34.70	36.43	38.42
Median Age (years)	30.82	33.86	37.18	40.38

Source: same as the preceding table

This table suggests that by the end of this century, the population in Shanghai will be very aged. In particular, the median age will be over 40. This means that at that time half of the people in Shanghai will be middle-aged or old, and thus the extent of aging in the population will be even higher than that in some developed countries. It is not difficult to imagine that this will increase the number of dependents and bring great pressures to bear on the economy.

A Prediction of the Ratio of the Dependents versus the Working Age Population				
	1985	1990	1995	2000
People at Retirement Age(60 for male and 55 for female) (%)	23.56	27.93	30.66	30.31
People 65 and Over (%)	11.04	13.47	16.06	18.12

Source: same as the preceding two tables

By the end of this century, the population in Shanghai will have greatly increased, and the total industrial and agricultural output will be at least triple the 1980 level. The industrial structure will be readjusted, and great developments will have occurred in science, technology, culture, and education. All this will be conducive to strengthening the economy of Shanghai as well as to improving the living standard and social welfare of the people. Yet, the demand for labor will increase, and the total dependency ratio in the society will be extremely high. Thus, coordinating economic development and the process of population aging has become a pressing economic and social problem in Shanghai. As a matter of fact, it is inevitable and should be faced up to.

For the purpose of integrating the process of demographic change with future economic and social developments, early efforts should be made to investigate from a strategic point of view the long-term changes in population composition, and steps should be taken to regulate fertility and orient the movement of population on a planned track so that the negative effects of serious population aging on economic and social development can be mitigated. In addition, closer attention should be paid to gerontological studies and the accommodation for the aged so that the large number of elderly people in Shanghai can spend their later years in happiness and contribute their potential to the modernization drive. In this way, the implementation of population policy can be better integrated with the planning of social and economic development, and greater social and economic accomplishments can be achieved.

THE ISSUE OF AGING AND ITS IMPACT ON SOCIAL DEVELOPMENT

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This paper is intended to discuss two issues: (1) the problems of the elderly and (2) the issue of population aging. They are related but different.

Old age is one stage of life, the last stage in the process of living. Everyone goes through infancy, childhood, adolescence, youth, middle age, and old age.... Like babies, children, youth and middle-aged people, the aged have their own characteristics and problems. Then, what is the the definition of the aged? With increased life expectancies and the delay of senility, the conception of the aged has undergone some changes. In the old Chinese society, average life expectancy was 35 years. Now it has increased to 67.88. In Beijing, it is over 70. The extension of the life span has been accompanied by changes in the definition of the aged. An old Chinese adage goes like this: "It has been a rare phenomenon from time immemorial that one can live for over seventy years." Today in Shanghai one often hears the adage "A man in his seventies is commonplace; one in his eighties is also not rare."

Higher life expectancies change the definition of old age. Now the United Nations standard for old age is age 60. In some developed countries, it is 65. In the past, Chinese called those over 60 people over the age of "Huajia," meaning that they had finished a long cycle of 60 years. After the founding of new China, the official age of retirement was set at 60 for men and 55 for women. In some sectors of heavy industry, the retirement age is 55 for men and 50 for women. Once a person reaches the age of retirement, he or she is regarded as being old....

Now, what are the characteristics of the aged? As one ages, one's physical condition begins to decline. This is a natural law independent of people's will. I have felt this in my own life experience. I have found that I work less efficiently in my eighties than I did in my seventies, and in my seventies I was in turn less efficient than in my sixties. Hence, with the increase of age, physical condition and efficiency of work decline. This is one of the differences between the aged and young. Througout infancy, childhood, and adolescence, people's constitutions gradually develop and the efficiency of work increases....

Aging is first of all a physiological phenomenon, independent of an individual's will. However, the process of aging is affected by social conditions. For instance, poor financial and living conditions, malnutrition, epidemics, and natural as well as artificial calamities, all can hasten physiological aging. In addition, one's mental state plays a very important part in aging. For example, disharmonious family relations, unhappiness, and lack of emotional gratification are all negative factors. Thus, the primary cause of aging is physiological, but social and economic factors also play a key role.

The aged have similar needs and wants. First, they want to resist the process of aging and prolong life. Second, they cherish the harmony of family life and want their later years to be enjoyable. Third, they hope to realize their potential and contribute to the society as much as their health allows. However, they also must face such problems as the gradual decline of physical strength, the loss of the ability to work or even the ability to take care of themselves. However, in China the needs of the elderly are addressed in different ways depending on their past work experience....

First are the retired employees. After 1949, China began a retirement system. In government departments, social organizations, and units of production, retirement benefits are available for men at 60 and women at 55. In some units, men can retire at 55 and women at 50. The size of the pension is determined primarily by the length of service, and monthly payments range from 60% to 100% of the last monthly wage.... According to some preliminary information, the total number of retirees is now over 10 million .... and the annual cost to the government over 7 billion yuan. Each year there will be 1.2 million new retirees at an additional cost of 700 million yuan. Though such figures may not be exact, they can be interpreted as rough indicators of the financial burden on the government today.

Although the retirees' means of living is secured through pension benefits, there are some problems. (1) The amount of a pension is fixed. Due to the frequent changes and adjustments in prices, retirees' living standards have been affected. (2) Some retirees do not have children or relatives. Therefore, although this income is adequate, they need help, especially when they are sick. Also, their spiritual sustenance is rather weak. (3) Some women complain that they are asked to retire too early. Since they retire at 55 (or even 50), many can fully engage in work for only twenty years after completing child-bearing. Yet, the average life expectancy of women is longer than that of men. Thus, some people have suggested that the retirement age for women should be the same as that for men. (4) There are some problems with the way the labour insurance funds are collected. The labour insurance funds are deducted from employees' income in the units where they work and distributed by these units.[1] When these units are in the red, they can not pay the pensions. The number of retirees in old enterprises are on the increase year by year. In some enterprises, the number of employees equals that of retirees, and in some cases there are even more retirees than employees. This has brought more pressures to bear on those in the work force. (5) There is no single government department in charge of retirees' affairs, but instead these matters are now shared by the Organization Department of the Central Committee of the Communist Party, various personnel bureaus, the Ministry of Civil Affairs, the Ministry of Labor, and the trade unions. Multiple leadership and tangled administrative channels have become a problem.

The second system of benefits are for the "three have-nots," the widowed or single elderly people without children, without pensions, and without the ability to work. Some are survivors of the old society, who under the oppression of foreign capital, bureaucratic capital, and landlords in the old society were bankrupt or unemployed. Others never married and had to depend entirely on the support of the society. Still others were widowed or ran into difficulties after 1949. They lack the ability to work and have no family to help them. A 1983 survey indicated that nationwide there were 0.21 million urban elderly people receiving regular subsidies from the government, and 23,000 were accommodated in homes run by the Ministry of Civil Affairs. In some cities campaigns for respecting the aged have been initiated. Many neighourhood committees have organized small groups to provide daily care and arranged deliveries to the homes of these people.

In the countryside, it is estimated that there are some 3 million widowed or single elderly people living in 2.6 million households. Previously the collectives provided food, clothing, housing, medical care, and funeral expenses (the "five guarantees"). When a collective was unable to provide such benefits, the government provided temporary support or regular subsidies in order to secure the basic means of living. After the implementation of the responsibility system based on production contracts in the countryside, various steps have been taken to support the households of the "five guarantees." At the same time, some collectives have established old age homes to support the aged with no relatives to help them. According to a 1983 statistical report, there were 14,500 rural old age homes accommodating over 0.17 million people from "five-guarantee" households.

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[1] This is a slight mistatement. In profit-making enterprises, funds for pensions, like those for wages, come from enterprise profits. This is not the case in non-profit units such as schools or government offices and in only a few cases are pension costs deducted from salaries as in the United States. [Editors]

With increased prosperity, some affluent villages have initiated retirement systems. According to one newspaper report, there are about 0.66 million peasants receiving pension benefits, and .... in Shanghai the number increased by 28% in the last year....

The Chinese Constitution provides that under the circumstances of old age, illness, disability, and loss of the ability to work, citizens have the right to receive material help from the government and the society, and the government should take the necessary steps to provide such aid as social security, social relief, and health services. During the period of the "Sixth Five Year Plan," the government expenditure on pensions and social relief funds amounted to 14.45 billion yuan. And in the future, a social security system will be established step by step.

The third system of aid to the elderly is for the veteran cadres of the Chinese Communist Party and the government. Such people have played important roles in China. In the years of the revolution, they made tremendous contributions. Since the founding of the new China. they have assumed leading or key posts and acquired enormous work experience. After stepping down from their former posts, they receive almost the same material benefits as before. However, after retirement the focus of their daily lives changes from administrative careers to the personal sphere, from the society to their families, and from work to leisure. Some of them do not adjust well to the change.... Some lack spiritual or psychological preparation for a life without involvement in work, and they feel uneasy. Some are still in good physical health and want to give full play to their potential but do not have the opportunities to do so. For the purpose of enriching and diversifying their spiritual life, some facilities have now been established. For example, some old folk's universities have been set up. There are 61 such universities throughout the nation. Studying there can help the aged improve their knowledge, enrich their internal world, create opportunities for reemployment, and remove the negative psychological barriers. Some elderly have set up various organizations .... to exchange views, conduct academic research, and provide consulting services. In addition, the government and some non-governmental organizations have set up recreational clubs for the aged to spend their leisure time. A large number of veteran cadres have technical, professional, and administrative talents. We should make further efforts to explore ways to bring their potential into full play.

Now, let me turn to the second issue mentioned at the beginning of this paper, that is, population aging. Population aging means an increase in the absolute number and relative proportion of aged people in the total population.... Is China now a country with a demographically aged population? According to a United Nations report, in 1950 there were about 200 million aged people in the world; in 1957 the number was 350 million, and by 2000 it is estimated the total will be about 590 million and by 2025, 1.02 billion. In 1950 there were 15 countries where more than 10% of the population was over 60; now there are 50 such countries. In 1953, the aged accounted for 7% of the population of China.... It is predicted that by 2000 the proportion will rise to 11%. At that time, China will become a country with an aged population.

By 2025, the aged will account for 20% of the population or, in other words, one out of every five people will be elderly. Certainly, this is only a prediction. However, these predictions do indicate that in China (as elsewhere) the growth rate of the aged is higher than that of the total population.

China is not yet a country with an aged population. But in some big cities the transition has occurred. According to a recent report in the Guangming Daily, Shanghai has taken the lead in this regard. Elderly in Shanghai now number 1.4 million, accounting for 11.5% of the total population of the city and turning Shanghai into an area of aged population. The aged population in Beijing accounts for 8.2% of the total population of the city, but it is predicted that by 1990 the percentage will rise to 10% and by 2000 to 14%. Harbin is also joining the ranks of cities of aged population.

An aging population puts great pressures on social development and economic growth. Thus, people in all walks of life should pay close attention to this issue, and in-depth studies should be conducted so that the social consequences of this issue can be tackled....

The effects of population aging on social and economic development can be summarized as follows:

First, increases in the absolute number and relative proportion of elderly in a population directly changes the consumption structure. The aged have different needs from middle-aged and young people. Thus aging of a population will encourage production of new commodities, and stores and services catering to the needs of the aged will be established. Subsequently, the direction of investment and production will be readjusted.

Second, population aging affects employment and productivity. A reduction in the size of the middle-aged population, or more exactly, the working age population, and an increase in the aged population inevitably affect employment and productivity. Now the United States and the Soviet Union have become countries with aged populations. Due to labour shortages, some retirements have been deferred, and the retired have been reemployed. The forthcoming reduction of the working age population and the increase of the aged in China will also affect productivity and the development of production.

Third, government expenditure will rise. Chinese government expenditure on pensions now amounts to 7 billion yuan a year, and if medical expenses are included, it is predicted that in the near future, annual expenditure will reach 30 billion yuan....

Fourth, demand will arise for new social, educational, cultural, and medical facilities. Some elderly people in good health will want to continue studies and improve their knowledge in order to serve the society better. Thus, education institutions will not only center around the young but also will be open to the aged. Old folks' university and adult education will be developed. It is said that there are 4,000 old folks' universities in Japan. In the United States there are some community night schools equipped with curriculum designed for the aged. In the future, education institutions in China will not only undertake education for young people but also include programs for life-time education of the aged, so that "never too old to learn" and "never too old to do" can be realized and the aged will be provided with opportunities to study. In addition, more employment opportunities will be provided for the aged so that they will be in a position to give play to their potential and continue to make contributions to the society.

Fifth, as leisure time increases, various recreational facilities will be established in the society so that the spiritual needs of the aged can be met. At the same time, various welfare institutions will be established to provide services for the aged.

The issues of old age and the issue of population aging are new challenges to us. The United Nations made 1982 "the year of the aged," and in July 1982 sponsored an international symposium on aging in Vienna to which a Chinese delegation was sent. After that, the China National Committee on Aging was set up, and the issue of aging subsequently caught wide attention all over the country.... In that UN international symposium on aging, the twenty-first century was called the era of aging. Though China does not yet have an aged population, the issue of aging has already emerged in some areas. We should attach great attention to the consequences of population aging. At present, aged people's means of living is mainly provided by their families and supplemented by the government and the collectives. Given the current level of productivity in China, many contradictions would arise if the government were to undertake all the support for the retired. We need to explore how to establish a social security system which would be diversfied in form and differentiated in content and standard. In addition, social welfare establishments and facilities should be developed and family security should gradually be replaced by social security....

The establishment of a social security system, the development of social welfare establishments for the aged, and legislative efforts to provide legal protection for the aged should be based on the present-day conditions and resources available in China. It is necessary to conduct some studies and run professional training programs in this regard. The issue of aging is related to many fields, and the studies therefore must cover a wide range of subjects, such as gerontological psychology, gerontological economics, gerontological law, and gerontological sociology....

The Chinese government and the United Nations Fund for Population Activities have reached an agreement and worked out a proposal to carry out studies of policy-making in respect to the issue of aging. From 1985 to 1989 the UN will provide all the necessary financial resources. The China National Committee on Aging will work as the executive agency for this program and in collaboration with the Japanese Family Planning Consortium, will sponsor research activities. This will be the beginning of planned studies into the issues of aging in China. The China National Committee on Aging will serve as an agency to organize both scholars and specialists engaged in caring for the aged to ... provide information and reference materials for the Party and government in policy making and legislation. This is a way of dealing with the issue of aging as well as an effort to develop gerontology into an independent subject on the basis of collection and analysis of research materials.

THE ROLES OF CHINESE URBAN ELDERLY IN SOCIAL DEVELOPMENT: DIRECT AND INDIRECT PARTICIPATION

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The problem of population aging has already caused world-wide concern. While modern social development has extended the average life span, the increased number of aged people has raised the total dependency ratio in societies, thus bringing more pressures to bear on social development. However, an aged population is not a totally negative factor, and the view that an aged population simply blocks social development is one-sided.... The aged can change from pure consumers into a dynamic force. In this respect, great efforts have been made in the West to facilitate the involvement of the aged in social development.

In China, the government has also attached great importance to this issue and created various conditions conducive to active interaction between the aged and the rest of the society and to the participation by the aged in social development. Yet, the extent and the form of participation differs among countries, regions and social groups. This article is intended to analyze the different ways in which the aged in urban China "give full play to their potential."

I. Two Major Forms of Participation

Various sources indicate that the majority of Chinese urban elderly make active contributions to social development. In general, they either work "directly" as employees or "indirectly" by doing housework, rearing grandchildren or caring for themselves. This second form is "indirect" in that by supporting or creating conveniences for working people, mainly their children, the aged do not directly contribute to social development.

Direct participation occurs under two circumstances. In the first case, the aged work beyond retirement age. In the other case, they return to work after retirement. In both situations, the elderly directly contribute to the socialist modernization drive. According to a 1984 survey of 1,098 elderly in Tianjin, 27.4% (N=301) worked beyond retirement age, 14.66% (N=161) postponed retirement, and 12.75% (N=140) resumed jobs after a brief retirement. In a 1985 survey of 591 urban elderly in Wuhan, 31.98% (N=189) were working, 21.49% (N=127) postponed retirement, and 10.49% (N=62) resumed work. These data suggest that between one-fourth and one-third of the urban elderly are still directly involved in social development. Though the percentage is not very high, the part these people play in political, economic, and cultural spheres is significant.

The following are eight major aspects of the urban elderly's participation in social development.

(1) Decision-making. After retirement, some who used to hold leading posts have organized groups to conduct surveys and provide information and advice to those still in office. Among such organizations are the "Advisory Board" in the Tianjin Municipal Government and the "Commercial Policy Research Association" in the Ministry of Commerce under the State Council. The Advisory Board of Tianjin Municipal Government was established in September 1984. At the request of the municipal government, 108 people (including veteran cadres formerly working in leading posts, university professors, and experts) were invited to work on the committee. Its major functions are to provide suggestions for policy making and implementation, to design or verify important policies and regulations, to collect information, and to undertake special assignments of the municipal government. With the support and collaboration of the whole administrative system, the committee has offered many valuable and substantially important proposals and reports, providing a scientific basis for important decision making and opening up new ways by which the veteran cadres can give play to their potential.

(2) Production activities. Going back to work is an important way for the aged to remain in the frontlines of production. According to a 1984 survey in Tianjin, 50.79% of the retirees who have returned to work are engaged in production. Most of them work in collective enterprises, particularly those in rural areas and small townships. They have formed a major technical force in such production units and contribute to their development.

(3) Professional consulting.... One example is the consulting services and training programs run by the Tianjin Association of the China Democratic National Construction Association and the Tianjin Association of Industry and Commerce. They have about 6,000 members, 96% of whom are over 55.... In order to tap their expertise and make it possbile for them to contribute more to the country, these two associations have organized various consulting services and training programs in industry and commerce... Another example is the economic consulting teams under the Shanghai Association of Industry and Commerce. Over the past three years, these teams have been regularly sent to minority areas. They have helped local enterprises develop over 380 new products... Some of the team members are nearly 70 years old, but they have taken three trips to Ningxia, two to Yunnan, and made important contributions to economic development in minority areas. They once said proudly,

"Enjoying our families and travelling all over the country to see the famous mountains and great rivers add to the happiness of old age. Yet, it makes us even happier to be able to contribute to the economic development of our minority brothers."

(4) Technical services. Some retired engineers have set up "associations of retired engineers," pooling their knowledge and experiences to provide technical services. By the end of 1984, the association of retired engineers, founded in 1979 in Chongqing city of Sichuan Province, had increased its membership from 45 to 491 and widened its scope to include more than 50 services. Their primary goal is to promote economic growth and facilitate rural development by providing technical consulting services to middle-sized and small enterprises in rural areas and small townships. Over 6,000 units have benefited from their services. The work they have succesfully done includes: technical design, exploration and survey of new projects, examination of blueprints, evaluation of technical personnel, training of middle-aged and young technical cadres, translation of foreign materials, compiling and writing new materials, and provision of technical advisors. Two other organizations of this type are the Tianjin Association of Retired Engineers and the Shanghai Association of Retired Technical and Scientific Workers.

(5) Education services. It has become common in urban areas for retirees to run remedial education programs to help middle school students and young adults. A typical example is the Tianjin United Spare-time University run by the Tianjin Alumini Association of Yanjing University, Southwestern United University, Qinghua University, Zhejiang University, and Beijing University. The Board Chairman of the university is Mr. Huang Yusheng, an 84-year old, well-known educator. The other five people serving as president and vice-presidents, as well as many faculty members, are all over 70. They receive no funds from the government. Rather, they run the university entirely on the basis of their own resources. The university has now reached maturity and has trained a number of qualified people. Other efforts made in this regard are the spare-time continuation class of middle school courses sponsored by the Association of Retired Teachers in Heping District of Tianjin and the pre-school education program run jointly by the YWCA branch and some of the female members of the Tianjin Association of Industry and Commerce. In addition, education has been used to enrich the cultural lives of the aged themselves. In recent years, "old folks' universities", by and large run by veteran cadres and retired teachers, have become popular throughout the country....

(6) Culture services. To change the monotonous atmosphere in which many aged live, some elderly activists have volunteered to set up "spiritual amusement centers" where the aged can read, chat, and take part in various recreational activities, enriching their lives. For example, in November 1982 some people living in the Guangdong Neighbourhood of downtown Shanghai initiated the first "Old Folks' Reading Society". By the end of 1984, it had

134 members, among whom the oldest was 86. Based on the resources at the neighbourhood's culture center, the library, and the center of popular science, this reading society sponsored a variety of activities and contributed greatly to the diversification of the spiritual life of the old. Similar centers established in other places have also been quite successful.

(7) Medical services. Some elderly medical specialists have volunteered to provide medical services to the aged as well as other people. The story of Zhou Chao, a veteran medical officer who provides care free of charge, has become well known throughout the country. In 1974 the Gerontological Society in the Luwan District of Shanghai set up the first geriatric clinic in the city. Since then, the clinic, run by retired doctors, has been providing free care for the aged three days a week. In view of the increasing concern about health among the aged, this society has established a consulting center--providing services in respect to diagnosis, use of medicine, mental hygiene, and physical exercise.

(8) Neighbourhood administration. Aged people play a substantial part in urban neighbourhood committees. For example, in 1982, 44.7% of the 67,986 people working in Tianjin's neighbourhood system were retirees. Another 43.4% were homemakers or unemployed individuals, and 11.9% were workers of neighbourhood collective enterprises. Most of the home-makers or unemployed individuals and those from neighbourhood enterprises were also elderly. Of all the people engaged in neighbourhood administration, 95% were age 45 or older....

As far as indirect participation is concerned, the aged take part mainly by means of doing housework, rearing grandchildren, and caring for themselves. Housework is the main component of indirect participation. Housework is very important and indispensable for social development. In particular, under the present social conditions in China, due to the relatively low level of productivity and poorly developed service sector, ... housework poses a heavy load, and how this problem is handled has substantial bearing on the process of social development. Thus, although housework does not directly create social wealth, and can not be interpreted as direct participation, we should never underestimate its contribution. Housework is one of the major concerns among those at work. So, in our view, doing housework also means participating, though indirectly, in social development.

In reality it is evident that it is because the aged have taken the responsibility for housework that children are freed to devote themselves to social development. Surveys in Tianjin have shown that, on the average, the urban elderly spend 18.7% of their time or 4.36 hours each day on housework, whereas those who are still employed spend only 12.8% or 3.08 hours each day.... The reason for this difference is that in the families of two or more generations, the aged have taken on the majority of housework, and the children can therefore spare more time for work, study, recreation, and individual development....

In fact many elderly have taken doing housework as a means of making positive contributions to social development. According to a 1984 survey of 1,076 elderly in Tianjin, 71.4% agreed that they were either "willing to make further contributions to the society in spite of old age" or that they would "share some housework so that the other family members can contribute more in the modernization drive." A 1985 survey in Wuhan shows a similar result, with 61% agreeing to either of these answers. These results suggest that about 60-70% of the aged in urban areas clearly view engaging in housework as a means of supporting other family members' particiaption in the modernization drive.

Another example of indirect participation by the aged is the role they play in rearing and educating their grandchildren.... In recent years, due to economic development and implementation of the policy of equal employment for males and females, the employment rate of females has risen, and working couples are the norm. Under the pressures of work and housework, working parents have less time to spend on their children's education. According to the data of the Tianjin Statistical Bureau, on the average, working parents spend only 25 minutes a day or 1.74% of their whole day on child care and education. Though this time doubles during holidays, the total time spent then is only 1 hour and 11 minutes on the average, accounting for just 4.93% of a parent's time. Today, as the whole country gears up to build the socialist "material and spiritual civilizations," such limited time is not sufficient for a child's on-going development. Inevitably, the aged who live with their children and grandchildren must take on this task. The aged are experienced in social life and have a lot of discretionary time after retirement. Rearing and educating their grandchildren can not only bring more pleasure to the spiritual life of the aged and alleviate the pressures on their children but, more importantly, can contribute greatly to the healthy growth of the third generation and, in the final analysis, to the on-going modernization drive as well as the future of the country. In this sense, such work is more or less directly linked to social development.

Finally, the care that elderly take of themselves is also an integral part of indirect participation in social development. Although such activities as physical exercise, cultivating aquarium fish, gardening, and keeping pet birds do not directly produce social wealth, they can improve the mental status and physical conditions of the aged, beautify the environment, and thus alleviate pressures on the government. Therefore, even these activities should be regarded as one aspect of indirect participation.

Participation in social development by the urban elderly can be summarized as follows.

First, the percentage of those who "indirectly participate" is higher than that of those who "directly participate." Those engaged in direct participation account for only 20-30% of the total number of the aged, whereas those engaged in indirect participation account for 70-80%.

Second, in terms of the nature of work, direct participation is generally mental work, whereas indirect participation is usually manual work. Direct participation tends to involve decision-making, technical consulting, and professional training which require expertise and experience. Indirect participation is centered around household affairs that can be handled by manual work.

Third, direct participation is a collective undertaking, whereas indirect participation is more individually oriented. Direct participation is society-oriented and only organized activities can give full play to the intelligence and capabilities of the aged participants.... Indirect participation centers around work in the home, is carried out on an individual basis, and does not involve formal organizations.

In general, most of the Chinese urban elderly are either directly or indirectly making their contributions to social development within the scope of their abilities.

II. Factors Relevant to Choosing the Form of Participation

Individual, family, and social factors condition the type of participation. In general, the most important individual factors are former occupation, educational level, and health condition. In a 1984 survey in Tianjin, it was found that professionals, technicians, managers and office staff were nearly twice as likely as blue collar workers to remain in their jobs beyond the official retirement age,[1] but that former occupation was a poor predictor of which retirees would return to work after initially withdrawing from the workforce.[2] The reason for this pattern of variation is that the demand for knowledge, technical skills, and management expertise is higher than that for manual labour. As a result, only those who are equipped with these abilities have the opportunity to participate directly, and those previously engaged in production must retreat to indirect participation. Of the few blue collar workers who do remain beyond the official retirement age, most have special skills.

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[1] These figures were originally displayed as table 1 but were summarized in the editorial process. The exact frequencies of working beyond retirement age were: professional and technical 37.2% (N=35), government, party, and enterprise leaders 41.5% (N=37), office staff 35.2% (N=24), employees in commerce 20.6% (N=12), employees in services 22.5% (N=14), employees in production and transportation 8% (N=30).

Second, education level shapes the type of participation. Overall urban elderly have low levels of education. Of the 1,098 elderly surveyed in Tianjin, 47.3% (N=520) were illiterate, or semi-literate, 24.4% (N=268) completed primary school, and only 28.2% (N=310) had reached the level of middle school or above.[3] Variation in education attainment significantly effects labour force participation. Due to a generally low level of education, most elderly are not in a position to undertake specialized work in cultural, scientific, and technical spheres, or various management activities. Thus, in old age, only those who are better educated can remain at or return to work... The Tianjin study clearly shows that the higher the level of education, the larger the number remaining at work beyond retirement age. Over half of the aged (51.5% N=33) with education at or above college level remained at work; 30% (N=26) of senior high graduates and 20% (N=37) junior graduates continued; while only 15% (N=41) of primary school graduates and 4.6% (N=24) of the illiterate and semi-literate still worked[4]

The Tianjin study also indicated some correlation between education and the likelihood of work after retirement. Nearly 30% (N=9) of the aged with a college education returned to work, while only 20% (N=46) of primary school grads and 7% (N=35) of the illiterate and semi-literate returned.[5] These percentages suggest that only the few with higher levels of education have many opportunities to participate directly. The majority of the aged who have little education are seldom in a position to remain at work or to return to work after retirement. They either stay at home or work at simple tasks, particiapting indirectly in social development.

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[2] Overall 22.7% of the 612 answering this question reported they returned to work after first retiring. The exact percentages originally reported in table 2 are: professional and technical 20.9% (N=13), government, party, and enterprise leaders 25% (N=13), office staff 22.2% (N=10), employees in commerce 28.2% (N=13), employees in the service 10.4% (N=5), and employees in production and transportation 24.2% (N=83).

[3] These frequencies were originally displayed as table 3.

[4] These frequencies were originally displayed as table 3.

[5] These frequencies were originally displayed in table 4.

Third, health affects the type of participation. In the Tianjin study, those with better health were more likely both to work beyond the official retirement age and to return to work after retirement.[6] Better health makes it more possible for the old to work, and poor health makes it less likely. A few in very poor health may remain beyond retirement age, but in these cases it is usually a case of a delay in the transfer of power...

Family factors also play a role.... Although urban family structure has undergone some change, most elderly still live with their children. Thus for example in the Tianjin survey, 71% (N=779) lived with a child, and only 6% (N=66) lived with a child and grandchild. 16.6% (N=66) lived alone.[7] Surveys of veteran cadres document that the average level of joint living is as high as 80-90%, and in some areas more than 90% of veteran cadres reported living with a child.

As soon as they reach retirement age, most elderly living with a child, except for those engaged in technical work or holding leading posts, willingly retire in order to help alleviate the pressures of housework on their children. This is also desired by their children.... As for those who have already retired, some prefer to do housework rather than return to work, while others do not have the chance to return even though they are willing to. According to the 1984 survey in Tianjin, 80.8% of the aged engaged in housework said they did "not want to return to work." Only 14.7% said they were "willing to go back to work." and 4.5% could "go either way." These ratios suggest that housework has limited the choices of the aged with regard to types of participation.

The social environment is a final factor conditioning the types of participation. First, a poorly developed service sector is the major reason why the aged must stay at home caring for various household affairs. For example, kindergartens are "in short supply." According to the 1984 survey in Tianjin, about 40% of the aged surveyed had at one time cared for their grandchildren, and some of them were still baby-sitting when the survey was conducted.

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[6] Based on a 7 point scale of health, ranging from: <1> no illness, <2> no serious illness, <3> ill but mobile, <4> seriously ill and immobile, <5> seriously ill and in need of care, <6> handicapped and in need of care, <7> senile, the percentages of those remaining at work beyond retirement were 17.6% (N=57), 19.5% (N=39), 12.6% (N=57), 6.9% (N=6), 11.1% (N=2), 0% and 0%. Frequencies were originally in tables 5 and 6 respectively.

[7] These frequencies come from table 7.

Second, ... unemployment among the young remains a problem. Therefore, most elderly people must retire when they reach the retirement age, and some of them have even left their jobs early so that their children could take jobs in their parents' units.... Thus in the short run, no steps will be taken to raise the retirement age, and staying at work and directly participating in social development will not become a dominant trend among those 60 and over.

To sum up, personal, family, and social factors interact to shape the choices the aged make about participation in social development. In a period characterized by moderate aging of the population, an underdeveloped service sector, and low levels of education among the aged, most of the aged will work at home, indirectly participating in social development. Only a small number can continue to take part in political, economic, and cultural activities and participate directly.

III. Future Participation

.... In the course of time, the employment problems of the old will change; education levels will rise and health conditions will improve. The number of extended families will decline, and the service sector will develop. At the same time, aging of the population wil accelerate and become a serious concern. Consequently, ... new patterns of participation will emerge.

First, as the well educated middle-aged enter old age, the general education level of the aged will rise. A 1985 survey conducted among 2,973 urban residents in Tianjin shows that the education level of the middle-aged is generally higher than that of the aged. This variation will definitely lead to a higher average level of education among the aged of the future. In view of the fact that the better educated have more opportunities to participate directly in social development.... direct participation will be more possible among the aged in the future. Yet, the increase in the number of participants is only one aspect of the change. There will also be changes in how the aged participate. In other words, participation will involve more mental work.

Second, changes in family structure will increase contact of the aged with people outside the family. One of the important changes will be that the aged will get rid of housework burdens and involve themselves in social life. According to a 1984 survey, 55.8% of the aged whose children had married lived separately from married children, and 57.7% of the entire sample agreed that "it is best to lead an independent life after children's marriages"..... The contrast with a traditional family structure is obvious. The increasing number of the aged living separately from their married children will mean a decreasing load of housework. Accordingly, the scope of indirect participation will be reduced, and the aged will step beyond the small world of family life and have more opportunities for direct participation with other people in the society.

Third, as the economy develops, various services will increase. In particular, some services relating to housework may forge ahead.... The Family Service Company in the Chaoyang District of Beijing has taken the lead in this regard. In addition, the use of various electrical appliances reduces the intensity of housework. Some statistics in 1985 show that there are over 50 washing machines in every 100 households in Tianjin. Other electrical appliances, such as refrigerators, are also being widely used. The development of family services and the wide use of family electrical appliances will eventually reduce the amount of work involved in housework, the elderly will be free to spend more time directly particiapting in social development as well as in recreational activities, thereby enriching their personal lives and integrating social development with individual development.

Finally, the impending aging of the population will affect participation. Though some cities in China already have "aged populations" by the UN standard, there is great variation across different regions. For the time being, the nationwide process is still moderate. Some estimates, however, suggest that the real problem of an aging population will arrive after 2000. At that time, ... direct participation will be further encouraged, and whether or not the aged participate in social development will become a key issue in the society due to the tremendous social pressures created by an aging population.

In general, we are of the opinion that different social conditions alter aged people's participation in social development. In regions where the level of economic development and education is rather high, most elderly live separately from their children, and the problems of an aging population have become serious. Elderly generally participate directly. Whereas, in regions where the level of economic development and education is rather low, most of the aged live with their children and an aging popultion is not yet a serious problem. The aged by and large participate indirectly in social development. The Chinese urban elderly's participation in social development is undergoing change. Under the impact of economic development, cultural change, family restructuring, and population aging, the scope of indirect participation will be reduced and direct participation will become the major form. The aged as a social group will play a more and more important role and make greater contributions to social development. This is our prediction for the future pattern of participation in social development by the elderly.

A DISCUSSION OF THE VALUES OF THE OLD

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Every person becomes old. Just as the hands of a clock will never turn back, this is an irreversible natural law. Time is life, and the value of life is embedded in time. As one approaches old age, will the value of life be changed? How will the aged be valued? Is there a problem about the values of the elderly? These are the questions to be discussed in this article.

I. Perception of Old Age

To do research on perceptions of old age, one must first do a careful investigation of the temporal aspects. By the United Nations standard, age 60 is the starting point of old age. Thus "old" is first of all a concept of time. Yet, "old" is only one stage in the life span; it does not mean the end of life. Therefore it is a concept of space as well as time. According to Marx, time ... is not only the measurement of life, but also the temporal space for human development.(1)

The following discussion will proceed in line with this proposition. In one respect, the possession of sufficient time means the possession of the possibility of developing one's capabilities, interests, and aspirations. At the same time, as social beings, people measure time in terms of the extent to which they give play to their capabilities and fulfil their interests and aspirations. French writer Victor Hugo once said, "for the intellectual genius, aging is not a problem." The famous Chinese writer Xiao Yin observed that "one should not interpret longevity only as having more years to live. Rather, the more one contributes to the society, the longer is one's life." Therefore, the value of life is again measured in terms of time.

Individuals exist under specific social conditions in specific times. Different ways of life lead to different temporal evaluations. In a society with class conflicts, the poor are normally afraid of a long life, whereas the rich are afraid of a short life, and the ruling class treats working class elderly who have lost the ability to work as a social burden. In a socialist society, class exploitation is eliminated. People of different age groups enjoy equal rights and duties. The aged are respected and their living conditions are legally secured, which not only extends the life span of the aged but, more importantly, enlivens their later years. This is the unity of the perception and value of the elderly in a socialist society.

Old age is a comprehensive concept. Aging is the outcome of the evolution of various temporal, physiological, social, and psychological factors. Sociologists differentiate age into chronological age, physiological age, mental age, and social age. Chronological age indicates a specific stage in the life course of the organism; physiological age refers to the extent of aging in terms of the indicators of different organic functions of the body; mental age reflects a person's perception of life and psychological characteristics in different phases of life; social age is related to the timing of the roles and duties assigned to a person by the society.(2) Modern medical science further differentiates aging into physical aging and mental aging. Mental aging differs from physical aging.... Mental aging results from bodily and ecological changes. The factors relevant to human bodily change can be further divided into organic factors and psychological factors. Thus, though there is a reasonable and widely accepted measurement of aging on the basis of time, chronological age (60 for male, 55 for female) is not the only measurement. Chronological age is predetermined, but physiological age, mental age, and social age are subject to the influence of objective and subjective social factors and can be modified to a certain extent. Modern physio-psychology and psycho-physiology have shown that changes in sentiment can either produce or prevent disease. When the brain is functioning normally, the impact of physiological age, social age, and natural age are significant. For instance, though aging of the brain is unavoidable among those over 70, good mental health and a positive attitude to life can extend chronological age. Some middle-aged people are only concerned about changes in their hair, skin, memory, and temperament. As a result they shorten their their physiological age and social age....

II. The Values of the Aged

Values are a person's yardstick for judging social phenomena, whereas the value of life refers to the importance attached to each person by the society and the self-evaluation of a person's role in the society. Under different social systems, people of different classes have different values. Mr. Hu Qiaomu points out that "in the framework of human relations in socialist society, the values are perceived from two perspectives, namely, the satisfaction and respect received by the individuals from the society and the duties and contributions of the individuals to the society".(3) In light of this viewpoint, we now examine the value of the aged.

First, the value of life is embedded in the whole span of life. It is measured in both qualitative and quantitative terms. In general, the respect and satisfaction received from the society should correspond with the contributions and the duties to the society.... Thus it is incontrovertible that the aged should share in the results of social development and receive proper material and spiritual satisfaction..., depending on the contributions they made and the duties they assumed before retirement. Yet, this is only one side of the issue. For the aged, does retirement mean the end of their duties to the society...? The answer is no. There remains the issue of involvement in social development.... Under our socialist system, the keynote of the value of the aged is "giving full play to their potential and roles while securing the economic necessities of life and leisure."

Second, if the value of life is measured in terms of the relations between individuals and society, the emphasis should be on the side of the society. A person's value to the society does not consist in securing personal gains from the society, but in the person's contributions and duties to the society. As one ages, many special needs and problems in respect to economic necessities of life and spiritual life arise. Taking care of the aged and meeting their special needs are the moral responsibilities of the society.

An aged population, i.e., a population where the elderly are 10% or more of the total population, has a fundamental impact on socio-economic life. Hence, the aged bear certain obligations in the process of social and economic development. This refers to the respect for aged people and the satisfaction of their needs in the society, on the one hand, and their contributions and duties to the society, on the other. Therefore, the value of the aged should be interpreted from a new theoretical perspective.

(1) The pace of social progress increases daily, and since the middle of the 20th century, we have entered a new phase of rapid development of science and technology, with unprecedented gains in life expectancy and social productivity. On the one hand, people have increased their working age in relative terms and their years in old age in absolute terms. Thus, it is natural that aged people should share in the results of social development. On the other hand, the relative increase of working age (in terms of added-value/hour) is parallelled by the relative increase of the years of old age, and the effect from the increase of working age will be partly or totally offset by the effect from the increase of the years in old age.... Therefore, with the actual and predicted increases in life expectancy, (it is estimated that the natural age of human beings can still be almost doubled), the aged, as social beings, have to assume some duties to social development, and their value should not be confined only to getting "ensured economic necessities of life and pleasure" but should also include "giving full play to their talents and skills."

(2) Knowledge is being renewed at a faster and faster pace. According to some statistics, technology becomes obsolete in three years and professional skills in eight.(10) This raises the question whether or not the role of developing knowledge is passing from the older generation to the young. If we emphasize physiological and mental age, it seems that the contribution of the elderly will gradually decline due to the decline in memory, slowing of mental functions, and the tendency to become more conservative as one ages. If we, hwever, emphasize the intersection of social age and chronological age, we will discover that the elderly have always played a major role in relaying and developing knowledge and production expertise. As the process of renewing human knowledge accelerates, the role of the aged becomes more important, since they are in a better position to synthesize knowledge on the basis of accumulated experience. Their value is not on the decline, but on the increase. Thus, we should counter the tendency among the young to underestimate the role of the aged, and among the entire population to neglect the continuing education of the aged--developing only the education and training of the young and middle-aged.

(3) While most industries are following the trend to become technologically advanced and cutting their labor force, the "third sector" designed to facilitate social production and consumption is expanding, and the demand for mental workers is increasing. In many hi-tech industries, the upper age limit has been lifted, and in the service sector there is high demand for the aged. Therefore, the aged as a whole remain an important labor resource in the society. Their involvement in social development is not only needed in the society but also desired by the aged themselves for the enrichment of their own lives.

(4) The difference between retirees and employees in acquiring material and spiritual satisfaction from social and economic development is embodied in the difference in their living standards. According to Engel's law, improved social welfare is indicated by an increased proportion of income used for luxuries in consumer expenditures. Yet, this is only a probabilistic statement. In a commercialized society, the spontaneous mechanism of the market and the principle of equality are contradictory to each other. It is inevitable that the quality of life among some people will lag behind in contrast with that among some others due to the enlarged income gap. Aged pensioners are among those who bear the brunt of such differentiation. Thus, as part of their contributions to the society, the direct participation of the aged in social development should be remunerated.

In view of the aforementioned four aspects, it appears that in this period of new historical developments, the value of the elderly must change.

III. A Re-interpretaton of the Value of Old Age

One must have a social criterion to make a social evaluation of life. Ours is to use the degree of contribution to society.(4) In ancient China it was widely believed that "the aged should be well tended until passing away" and "there should be sufficient support for the aged".... However, in the days when the society was dominated by the exploiting classes, even this wish could hardly be fully realized. Only in new China where the working class is the master of society has it become possible to realize these ideals. Today, when we say "there should be sufficient support for the aged, and there should be guarantees for their happiness," we mean to improve their living conditions in accord with the socio-economic development under the fundamental system of socialism. Yet, social, economic, and technological development has reached such a point that to "give full play to the potential of the old" has become a new necessity for the aged in the society. For elderly today, the issue is not whether or not to make further contributions but how to do so. Here, it is necessary to reconsider the value of the aged.

The aged in China, in giving off their "remaining heat" and assuming responsibility for social development, are an extraordinary force. Today, there are about 90 million aged people in China. Some statistical data in Beijing and Tianjin show that about 70% of the retirees still have, to varying degrees, the ability to work, and 40% of the aged have great intellectual capabilities.(5) In practice, these people have been playing important roles in production, social life, and family life in various ways. Some defer retirement. In Chongqing, 4.69% of those who have reached retirement age have not quit their jobs.(6) Others work after retirement. These people are mainly involved in social work on a voluntary basis. In Tianjin and Beijing, retirees account for 45% and 60% of the staff and leadership of the street committees. But there are also those who do technical work, particularly in the newly developed collective enterprises where they participate in the process of change which is charaterized by a shift from "reliance on the aged" to "reliance on both the aged and youth" to "reliance on youth." This process is of great historical significance in the boom of enterprises in rural areas and small townships. Furthermore, according to some statistics in Tianjin, 80% of the technical force in such enterprises are retirees.(7)

A third way in which pensioners have continued to contribute has been through consulting services concerning technological development, government policies, and legal procedures. Associations of retired teachers, engineers, medical workers, and legal staff, and alumini associations of post-secondary institutions have mushroomed all over the country. Many elderly with expertise have run training programs or even worked as temporary labor when neede.(7)(8)(9)

In family enterprises, senior members take a heading role. In the countryside where 80% of the population live, the aged still have a dominant role through family members' collective work under the responsibility system and in arranging family life and household labour. According to some statistics on urban Tianjin, 76% of the aged people live with their children and grandchildren, still play the leading role, and have the final say in family affairs, and 37.7% help their children do housework.

Obviously, the value of the elderly has undergone in fact some changes. The traditional view that "the old should be guaranteed care and pleasure" has been transformed to a view that the old should "give full play to their potential." But still their value is determined by their contributions to the society.

Yet, "give full play to potential" presupposees that the aged have been guaranteed (legally and socially) a sufficient means of living. Improved welfare and social equality are dependent on the overall performance of the economy, and cannot be brought about merely by ethical pressures.(11) Nor, does material security guarantee the satisfaction of spiritual needs. In the highly developed Western welfare countries where the elderly are provided with decent material means, it is hard to remove the loneliness and anguish created by the social system and to make the elderly feel really happy.

The aged are first and foremost members of the society, standing on the same social ground as others. If they lose the social trust they need as workers, they will feel discarded by the society and suffer from loneliness and anguish. If, however, they can fulfil their duties to the society, they will still be able to sense the trust in them and feel psychologically satisfied and delighted. Also, if the aged, as senior members of the society, can maintain their social status and receive respect from the society while changing their role from worker to pensioner, they will be clearly aware of the value of their existence, strengthen their sense of duty, and feel satisfied. If, on the contrary, their status as senior members of the society can not be maintained after retirement or they are even discriminated against, they will feel that to live is only to survive, and they will lose their sense of social duty and suffer from psychological depression and anguish. As such, we can come to the conclusion that the substantial changes in the value of Chinese elderly today are the logical outcome of the rapid development of the construction of "material and spiritual civilizations" under the leadership of the communist party since the Third Plenum of the Twelfth Conference of the Cental Committee of the Chinese Communist Party. On the one hand, China has solved the problem of basis subsistence and now is moving toward the stage of getting well off. On the other hand, the fine tradition of respecting and supporting the aged continues to develop during the construction of the socialist "spiritual civilization," indicating entry into a new stage of the spiritual condition and value of the aged.

However, some aged elderly hold problematic values. In particular, there are three groups. First are those who believe "society serves me." People holding this view take retirement as a dividing line between serving the society and being served by the society. They are of the opinion that they have made great contributions to the society in their early years and not only should they be entitled to special treatment but their offspring also should enjoy the same privileges. In spite of the generous living conditions given them according to the regulations of the party and the government, they still want some more benefits--such as cars, houses, honors, and high positions and salaries for their children. Motivated by the strong desire for possession, they argue that the society is indebted to them.

Second, are those who withdraw. They complain about the rapid changes in the society. Based on their past experiences, they object to the new values of "speed is life; time is money." They can not adapt to the new rhythms of life and feel as if they have been discarded by the society. In the face of the on-going changes, they try to avoid any confrontations and retreat to an imaginary world without fame and wealth.

Third are those who stay away from the stream of historical development. There are many in this group. They regard the youth as the makers of history and see themselves as outsiders. They equate "retreat from the front" to "retreat from history." They confine life to the family. They seldom get in touch with the outside world and pay little attention to current affairs and social development. They stay at home, helping to do housework and taking care of their grandchildren, without treating this as a kind of social work or a form of division of labor. As a matter of fact, this is only a shift of workplace or a change in type of work. They are not, and can never be, out of the arena of history.

It is important to bear in mind that mainstream values among the aged do not exist in isolation. They are an integral part of the socialist outlook of life and are located in the midst of various values. Values are interrelated and interact with each other. The values of the aged are not only a reflection of the evaluation of the elderly but also a reflection of the evaluation of the young. The yardsticks used in the two processes of evaluation may sometimes contradict and even conflict with each other. For instance, some young people view participation by the old as an effort to "grab their rice bowl" and to limit the freedom of the young. Others feel that they have lost their psychological backup after their parents' retirement, and they fall into deep depression. All this will affect the establishment of a correct perception of the old and, particularly, within families lead to such phenomenon as a "generation gap" and conflict. Hence, values of the aged should be incorporated into the education program for a socialist outlook of life so that the thinking of the young and that of the aged can be integrated into an organic unity. This is an important issue of far-reaching significance.

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THE MAIN SOURCES OF SOCIAL SECURITY FOR THE AGED UNDER THE NEW CIRCUMSTANCES OF RURAL CHINA

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I.

A key characteristic of the present distribution of the Chinese population is that the overwhelming majority of its population, including that of the elderly, are scattered in the vast rural areas living in villages, not towns or cities. According to the statistics of 1984, China has an old-age population (aged 60 and over) of 84 million, accounting for 8 per cent of the national population; 69 million or about 82.14 per cent of the total old age population live in the countryside.

The economic reform in China was initiated in the rural areas and already has greatly increased productivity and affected social life. These changes in the rural economy and social structure have led to changes in the social security system, which was formerly dependent on the rural collective economy. This has brought great changes in the life of the elderly peasants who now are confronted with new circumstances and new problems, such as:

1. Increased family income has improved the livelihood of the majority of old peasants. In many places, with the change of family income and betterment of livelihood, the scope and standard of social security for the aged have expanded. Their life expectancy has increased and the number of old peasants over 75 has grown.

2. In peasant families, ever more members are shifting to towns for permanent or seasonal non-farm labor. Owing to the increase in out-migration, particularly of young men, the workload for quite a number of old peasants shows no sign of decreasing and those with good farming skills or experience in other specialties are still the mainstay of the labor force.

3. Changes in rural family structure have already begun, especially among those whose young have migrated and those whose standard of living has improved. As a result, the number of nuclear families has increased. Unless they can get help from nearby relatives or friends or from the neighbourhood, some old and weak people whose children are away will have considerable difficulties in life.

4. The new responsibility system in agricultural production cannot solve the poverty problems of all peasants in the countryside. This has been particularly so in the remote and barren areas. In some rural villages, public welfare funds, which are deducted from the socialist economic collective, have been reduced, or account for only a very small proportion; thus they fail to meet the need of economic development and the people's demand for social security. In some rural villages, while implementing the

policies of the new responsibility and "becoming rich first", the local leadership neglected the care of those households with difficulties, and did not pay enough attention to the cooperative medical service. Therefore, the life of some old people still needs protection.

5. Unless a stable social security system can soon be established in the countryside, some of the old peasants will worry about their living circumstances when they become weak or ill. They will become resentful or doubtful of the policy of family planning, because they will still see a need for children to support them in old age.

II.

In rural China, the family, the collective,[1] and the government have always been the three main sources of support for the aged. This has been substantiated by history. But the particular role played by each of these sources changes with the development of economy, society, science and technology.

For a very long time, the care of the aged in rural China has been mainly the responsibility of the family. Things will go on like this in the near future, and mutual economic help between relatives, or among neighbours, will also play a role. However, the reform of the rural economic system and the invigoration and development of a commodity economy have changed not only the concept of man, but also social relationships and relations between man and man. On the other hand, the rural economy with a family economy as the core has enhanced the concept of family; while on the other, the development of a commodity economy and the increase of nuclear families has weakened the structure of the extended family--thus weakening the old-age security system formerly dependent on the collective economy.

The Chinese constitution has stipulated that children who have come of age have the duty to support and assist their parents. Under this condition most children forming a nuclear family or working off the farm would still want to support their parents or grandparents. However, in practice, there may exist certain difficulties. Objective trends have shown that one cannot view the problem merely from the angle of legal sanctions, but one should start from facts and solve the difficulties for the children in supporting and looking after their parents. There has been an urgent need for the peasants, particularly those in economically developed areas, to develop various forms of social security systems for the aged, including those of commercial old age insurance as well as social services.

At the present time, China practices a policy of family planning. Due to the traditional ideals and the weaknesses of the small-scale peasant economy, elderly peasants do worry about the lack of care and support from their children when becoming weak or ill. For this reason, some people doubt the policy. This is understandable. If a primary security system for the aged could be carried out step by step in rural China, even if the treatment were meager at the beginning, it would be possible for the peasants to take a long range view. This will to a certain extent help reduce the old traditional concept of "bearing children as security in old-age". Realizing that they need not depend totally on the support of their children, they will more willingly practice family planning. Recent investigations made in the rural villages in the suburbs of Beijing and Guangzhou have shown that in areas where peasants enjoy old-age pensions, the overwhelming majority are in favor of family planning. In rural China, the reduction of the birth rate and the implementation of a social security system for the aged are two closely related problems.

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[1] Collective: Here refers to industrial and commercial service enterprises run by the rural collectives and farm units as well as mass organizations under collective ownership.

III.

In contrast to most other developing countries, China has already established a social security system for the aged. When elderly peasants have difficulties in making a living, they are cared for and supported by the collective economy. To those who have no kith and kin and cannot support themselves, and those who no longer have the ability to work or who are without any source of income, China has gradually established a "system of five guarantees", which is characterized by combining "collective support, mass help, and government relief." The system guarantees food, clothing, medical care, housing, and a burial.

In recent years, there have been some new developments in rural China. That is, in addition to the "five guarantees", the cooperative medical service, and other services, some rather well-off towns and villages have set up their own pension systems. According to statistics of 1984, there were about 1 million elders enjoying old-age pensions in rural China. Pension standards vary in different areas, but facts have shown that since the implementation of the new production responsibility system, instead of regressing completely to a family support system, the trend has been to offer ever more social security.

According to 1984 statistics, 2.96 million peasants received the "five guarantees" or lived in an old folks' home. Among them, about 240,000 were supported and taken care of by about 20,000 village-run old folks' homes; about 2.45 million were jointly supported by the collective, friends, or relatives. In addition, there were about 100,000 receiving regular relief from the state. Thus, together with the 1 million elderly peasants under the care of various forms of a social security system, 4 million (6 per cent) of the 69 million old peasants living in the rural villages of China receive public support. Due to limitations of the economy and other conditions, what has been done for the rural elders could only be said to be very limited.

People may want to know, under the present level of China's economic development, whether there is any possibility of developing social security on a broader scale in the countryside. Of course, there is very little hope for this if it is done entirely through state expenditures. However, if it is funded by the collective, through individual insurance payments, and government support, there is the possibility of doing this gradually. At present, some rural villages have set up "welfare foundations" by collecting 1-2 per cent of the profit from the rural collective enterprises; others have run welfare enterprises, using a certain part of the profit as a welfare fund. Still others started their old-age security by receiving contributions and donations from different organizations and government help. Suggestions have been made to set up a low-benefit retirement system by collecting a social security tax or by combining public welfare fund with individual payments to insurance organizations.

In short, while considering ways of providing care for the aged in rural villages, different measure should be taken according to different levels of economic development. In areas where the economy is prosperous or town enterprises well developed, a social security system similar to that of the collective enterprises could be created. In villages with moderate levels of income, funds could be collected from public welfare funds of the collective, old-age social insurance tax, and individual insurance payments. In poverty-stricken areas, beside government relief and subsidies from public welfare funds, family care will remain the primary form of support.

Throughout rural areas, medical care for the elderly has been a particularly urgent demand. At present, about 60 per cent of China's rural population enjoy cooperative medical services, and in well-off areas, hospitals and sanatoriums funded by the collective government have been established. There are still many elders who lack medical security. From now on, the cooperative medical system should keep on progressively expanding.

It is generally believed that several forms should be developed when setting up social security for the aged in the countryside of China. Funds could be collected through various sources and forms of management. Of course, the key question is whether the rural economy will go on developing.

IV.

In setting up a social security system for the aged, rural leadership should make plans and do organizational work. In areas where the peasants are well-off, consideration should be given to setting up organizations or economic entities such as pension funds that provide security in old-age, medical treatment, and other services.

While gradually setting up a social security system, some village governments have been doing their best to maintain the tradition of family care, such as strictly and rationally carrying out the law that children have the duty to care for the aged. Governments or enterprise organizations have rewarded families and neighbourhood centers that have taken good care of the aged.

In some areas, local governments not only give active support to the running of social security but also provide necessary conditions for setting up old folks' homes, cooperative medical services, and other services. Meanwhile, they also devote themselves to increasing the extent of rural collective welfare. This has not only reduced the household chores of farm laborers but also lightened burdens on the old.

Setting up social security for the aged should not be regarded merely as a matter of solving the problems of the aged. To those who are still physically strong and fit for farm labor, it will reduce their apprehensions about their own future. Reducing young laborers' burdens in supporting the aged is not only conducive to developing productive labor in the countryside but also beneficial for the stabilization and mobility of farm labor.

Collective methods depend solely upon the economic conditions of various localities. It can never be done through compulsory contributions. This will increase the burdens on the enterprises and the rural masses. Any welfare system that goes beyond current levels of economic development will not be welcomed by the masses.

In the histories of other countries' economic and social development, rural social security systems have generally developed at a late stage. In China, setting up and perfecting this system with Chinese characteristics will surely be an arduous and long process. Particularly owing to the seriously uneven development in China's rural economy, different forms and different treatment of social security will exist for a long time in the countryside. For the time being, the most important thing to bear in mind is that the establishment of a social security system should be closely coordinated with the reform of the rural economic system and the needs of elderly peasants. The result will further promote the development and prosperity of China's rural economy.

PART VI

HEALTH AND THE AGED IN CHINA

LONG-TERM CARE IN THE UNITED STATES: SOME IMPLICATIONS FOR CHINA

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Long-term care refers to the services required by persons with substantial functional impairment due to chronic disease or disability. The goal of long-term care is to maximize functional independence and life quality for the impaired person. In general, "long-term care" refers to health and social services that are provided for the long run, usually six months or longer. Frequently, the need for long-term care lasts until death.

Long-term care services are appropriate for people with chronic diseases or disabilities at any age. In reality, the incidence of chronic, degenerative, and disabling conditions increases with age, and therefore the issue of long-term care is closely tied to the problems of old age. The cumulative effects of morbidities, together with the losses inherent in the aging process, make long-term care especially relevant to the elderly. Hence the need for long-term care in the population is strongly influenced by the size of the elderly population and the prevalence of disease and disability within this population.

This paper provides a brief description of long-term care in the United States. Efforts are also made to draw some implications for China. Specifically, population aging and its implications for health services in the United States will be reviewed first. Second, given the available data, the system of long-term care will be presented in terms of the levels of supply, utilization, and expenditures. The role of the family in providing such care will also be discussed. Third, population aging in China will be examined to provide the necessary background for discussion. Fourth, some implications of population aging in China and concomitant processes in China for long-term care will be examined.

I. Population Aging in the U.S.

The segment of the American population that is age 65 or older grew eight fold between 1900 and 1980. In numerical terms, there were 3.1 million older persons in 1900, and in 1980, the older population had increased to 25.5 million. Proportional increases have been equally dramatic. In 1900, the elderly comprised 4.0 percent of the population; in 1980, they were 11.3 percent of the population. Between 1960 and 1980, the population aged 65 and older increased by 55 percent. By contrast, the increase in the under 65 population was only 24 percent. For the most part, this recent growth in the size of the older population can be attributed to the decline of fertility and more recently, to declines in death rates in old age. Projections indicate continued growth in both the numbers and proportions of elderly in the United States. By the year 2000, the population aged 65 and older is expected to number 35.0 million, or 13 percent of the total population. If mortality rates continue to decline as they have since 1966, in the year 2000 there will be 38 million older adults comprising 13.6 percent of the population (Brock and Brody, 1985). The projections for 2020, when the post-war baby boom generation reaches old age, are even more startling. Between 1980 and 2020, the size of the older population will more than double. Brody (1984) projects that in 2025, 58.5 million people will be over age 65, comprising 20 percent of the population.

The elderly population itself is also aging. This can be shown by examining the proportions of those over 75 (the older old) and those over 85 (the oldest old). In 1980, almost 10 million Americans were aged 75 or older, accounting for 39 percent of the over 65 population. Of this older group, almost one-fourth were over the age of 85. These older segments of the population have been growing rapidly. Between 1960 and 1980 the population aged 75-84 increased 67 percent; the population 85 and older increased 141 percent. For these same years, the total population of the United States grew by only 26 percent.

It is expected that the size of the older elderly population will continue to grow at fairly high rates. By the year 2000, there will be about 5.1 million Americans over the age of 85, a 132 percent increase from 1980. By 2040, 13 million people will be in this oldest old group. Another indicator of the growing importance of these older segments of the population is their increasing size relative to the total older adult population. In 1980, 39 percent of all older adults were over age 75; nine percent were over age 85. In 2040, these proportions will have shifted substantially. Fifty-six percent of the population age 65 or older will be over age 75. Almost one fifth will be at least 85 years old.

II. Health Service Implications of Population Aging in the U.S.

The demographic picture described above has profound implications for the delivery of health services. Brody (1984) reports that in 1978 the rates of admission, per 1000 population, to short stay hospitals for the age groups 65 to 74 years, 75 to 84 years, and 85 years and older, were 299, 451, and 507 respectively. The rates of admission to nursing homes per 1000 for these same age groups were 15, 68, and 216. Brody (1985) offers three specific examples of how the changing demographic picture will affect the need for medical services in the future. In 1980, approximately 200,000 people suffered hip fractures. The median age for this group was 79. By the year 2000, the number will have increased to 330,600 and, by 2050, to more than 650,000. Therefore, between 1980 and 2050, we can expect the number of hip fractures to more than triple and the need for medical care associated with these factors to increase accordingly. Alzheimer's disease and related disorders offer another example of why the need for health services can be expected to increase. In 1980, there were 2 million people with Alzheimer's disease, with an average age of about 80 years. By the year 2000, the number will rise to 3.8 million and by 2050, to more than 8.5 million (of whom almost 5 million will be age 85 or older). The number of people in nursing homes is also expected to increase dramatically in the future. In 1980, there were about 1.1 million older adults in nursing homes. By 2000, the number will rise to 2.2 million, and by 2050, conservative estimates put the number at 5.4

million. Of course, projections about the size and health status of future populations are somewhat uncertain. However, within the scope of our current knowledge,it appears as though the demand for health related services for the chronically ill elderly will rise dramatically.

The older segments of the elderly population, particularly the oldest old, have the characteristics that lead to dependence and frailty in old age. It is the population 85 and older that most often exhibits severe levels of disability and the need for long-term care. Between 1950 and 1980, the proportion of the population aged 85 and older residing in institutions more than doubled, rising from 9.4 percent to 23.2 percent. Thus, almost one quarter of the 85 and older population is institutionalized (Rosenwaike, 1985). Given the projected increases in the size of the oldest old population, the number of frail elderly is likely to grow at a rapid rate.

III. Long-Term Care in the U.S.

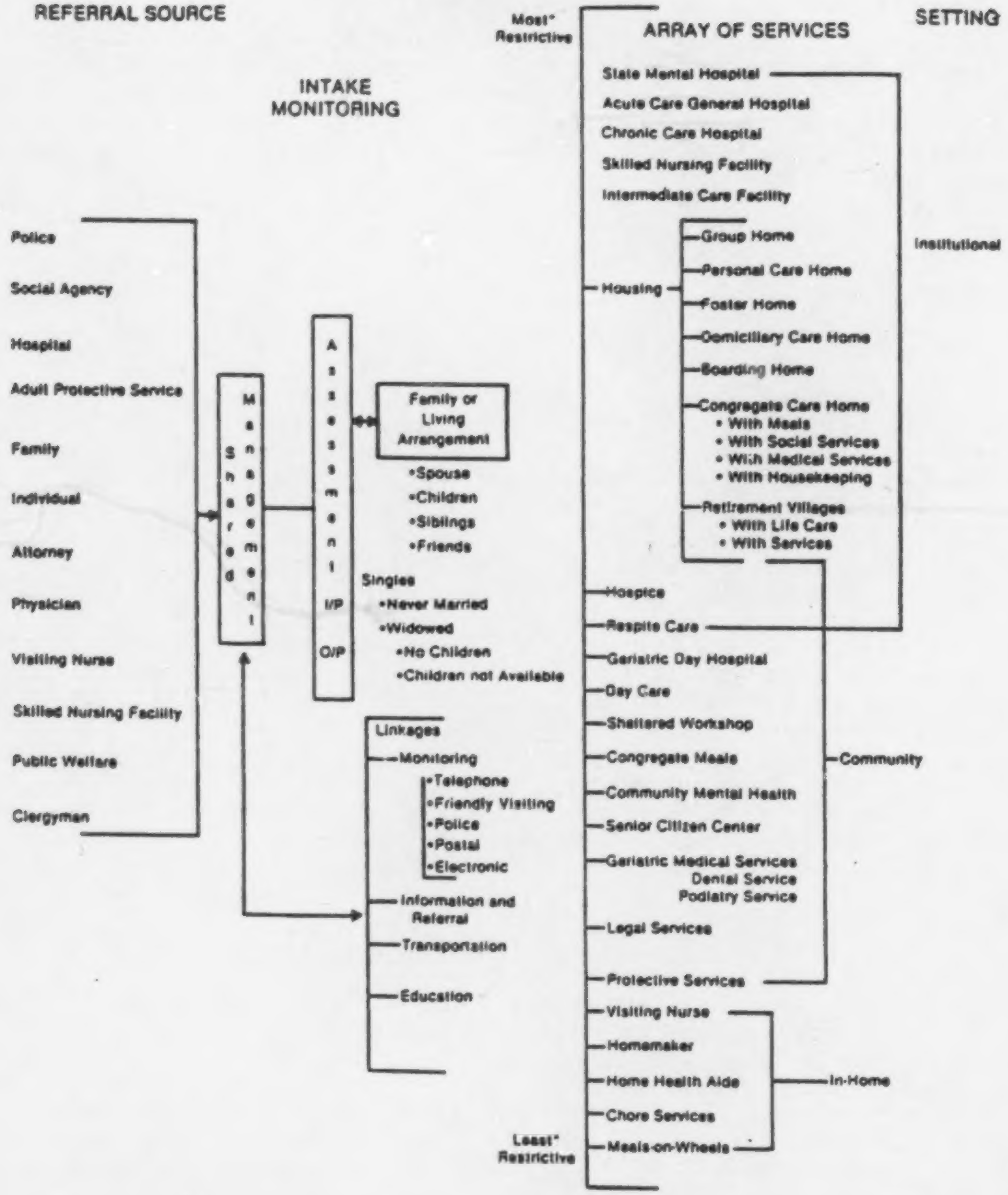
Long-term care refers to the personal, social, and residential services provided to persons with chronic disease and disability over an extended period of time. In general, the goal of these services is to maintain or improve the functioning of the patient. The need for long-term care is linked to mental and/or physical disability that interferes with the performance of routine activities of daily living. Because these types of disability are more common among older adults, particularly those over age 75, long-term care is an important gerontological issue.

In the United States, long-term care consists of an array of services provided in a variety of settings (Figure 1). These settings fall along a continuum ranging from the least restrictive environment to the most restrictive environment. About 29 percent of America's long-term care population reside in institutions, while 71 percent live in their own homes and rely upon community-based formal and informal supports (Doty et al., 1985). In the following pages, these services and settings and the financing mechanisms that support them will be reviewed. We will begin with institutional programs.

A. Institutional Long-Term Care

The most common long-term care institution is the nursing home. There are two basic types of nursing homes -- skilled nursing facilities (SNF) and intermediate care facilities (ICF). A skilled facility has the staff and resources needed to provide skilled nursing services, usually to patients who need either post-hospital medical and/or nursing care or rehabilitative services. An intermediate care facility provides health-related care to individuals who do not need hospital or skilled nursing care but do need some health and personal care assistance. The distinction between these two types of nursing homes has important financial implications. SNFs charge higher rates, receive higher reimbursements from public financing programs, and are eligible for reimbursement under programs that will not pay for intermediate care.

FIGURE I —
Long-Term Support System


REFERRAL SOURCE
INTAKE MONITORING
Most* Restrictive
ARRAY OF SERVICES
SETTING
Police
Social Agency
Hospital
Adult Protective Service
Family
Individual
Attorney
Physician
Visiting Nurse
Skilled Nursing Facility
Public Welfare
Clergyman
Shared Management
Assessment
I/P
O/P
Family or Living Arrangement
•Spouse
•Children
•Siblings
•Friends
Singles
•Never Married
•Widowed
•No Children
•Children not Available
Linkages
Monitoring
•Telephone
•Friendly Visiting
•Police
•Postal
•Electronic
Information and Referral
Transportation
Education
State Mental Hospital
Acute Care General Hospital
Chronic Care Hospital
Skilled Nursing Facility
Intermediate Care Facility
Housing
Group Home
Personal Care Home
Foster Home
Domiciliary Care Home
Boarding Home
Congregate Care Home
• With Meals
• With Social Services
• With Medical Services
• With Housekeeping
Retirement Villages
• With Life Care
• With Services
Institutional
Hospice
Respite Care
Geriatric Day Hospital
Day Care
Sheltered Workshop
Congregate Meals
Community Mental Health
Senior Citizen Center
Geriatric Medical Services
Dental Service
Podiatry Service
Legal Services
Protective Services
Community
Visiting Nurse
Homemaker
Home Health Aide
Chore Services
Meals-on-Wheels
In-Home
Least* Restrictive

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* The classification of from most to least restrictive is a general view of services and may vary within each service.

Source: Brody, Stanley *et al.* "Planning for the Long-Term Support/Care System: The Array of Services To Be Considered." Prepared for Region III Center for Health Planning, Philadelphia, June 1979

Doty et al. (1985) review the growth in nursing home beds in recent decades. The number of nursing home beds in the United States grew dramatically between 1963 and 1973, increasing at an average annual rate of 8.1 percent. In recent years this rate has dropped to about 3 percent per year. In 1980, there were approximately 1.4 million nursing home beds, or 54 beds per 1,000 elderly. There is widespread regional variation in the number of beds per 1,000 population. At the extremes are the states of Florida with only 22 beds per 1,000 and Wisconsin with 94 beds per 1,000 population.

The use of nursing homes rises dramatically with age due to increasing mental or physical disability and depleted informal support from family and friends at home. Only 2 percent of the young-old (ages 65-74) are in nursing homes, compared to 23 percent of the oldest old (ages 85 and older) (Doty et al., 1985). The typical nursing home resident is described by the 1977 National Nursing Home Survey as an 80 year-old, widowed, white female, suffering from about three chronic health problems. She had been in the nursing home for 1.6 years at the time of the survey. The majority of admissions to nursing homes (54 percent) were patients transferred from another health facility, primarily general or short-stay hospitals (32 percent). However, a sizable proportion of the admissions (40 percent) came from a private residence.

Institutional care for the elderly can also be provided in a range of "protected" housing environments. Personal homes offer substantial assistance with activities of daily living (ADL), such as bathing, going to the toilet, eating, and ambulating. Domiciliary care homes provide a lower level of care -- typically a room, meals, housekeeping, and limited ADL assistance. Foster homes are usually private family homes that offer room and board and minimal surveillance to the older individual. Social workers play a key role in matching the needs of the older adult client with the resources of the foster family.

We do not know exactly how many older adults are served by personal care, domiciliary care, and foster care homes; estimates range between 130,000 and 150,000 -- a very small proportion of the older population and less that 10 percent of the institutionalized population. These types of facilities tend to serve older adults who are low income, single, and suffering from some mental or physical impairment that does not require nursing home care.

The least restrictive types of institutional settings in the United States are congregate housing and retirement communities. Congregate housing is usually developed in high rise apartment buildings that serve only the elderly. Often these buildings provide an on-site meals program, an activity program, and minimal surveillance of the residents. Retirement communities provide a variety of social, medical, recreational, and transportation services to their residents. Housing in retirement communities is usually expensive and beyond the financial means of many older Americans.

B. Financing Institutional Care

In the United States, long-term care is paid for with a mix of public and private monies. From data provided by Doty et al. (1985), we estimate that in 1981 about $32 billion was spent on long-term care. Expenditures for institutional care were approximately $27.3 billion, or 85 percent of the total amount. Just less than half this $27.3 billion was spent out-of-pocket by the elderly, and just over half came from public monies. The major sources of public support for long-term care are the Medicaid and Medicare program.

Medicaid provides health insurance for America's poor of all ages. Most of the recipients of Medicaid are families with school age children, but most Medicaid expenditures support the elderly poor. Medicaid is the major source of public money for institutional care. According to Doty et al. (1985), in 1982 Medicaid paid 49 percent of the total amount spent (both public and private monies) on nursing home care. Funds for Medicaid are provided by both state and federal governments. Within the basic federal guidelines, each state can decide what long- term care services to pay for, how much to pay for them, and what reimbursement method to use (retrospective, prospective, or mixed).

Three-fourths of elderly nursing home residents receive at least partial Medicaid support, but approximately half of all Medicaid-supported nursing home residents were not receiving Medicaid at the time of admission. The elderly often enter an institution on a private pay basis but exhaust their personal resources within the first year. After personal savings are depleted, Medicaid will pay for their care. Currently, the average annual cost of nursing home care exceeds $20,000 per year. It is not surprising, therefore, that the savings of the institutionalized elderly rapidly disappear.

In 1983, Medicaid long-term care expenditures amounted to $15.4 billion, 48 percent of all Medicaid payments (Doty et al., 1985). Almost all of this money supported institutional care, as opposed to home care. The increase in Medicaid expenditures during the past decade is of substantial concern to state and federal officials. The amount spent for services in skilled nursing facilities and intermediate care facilities rose from $3.4 billion in 1974 to $10 billion in 1983.

Medicare is a federally financed health insurance program for the elderly. Most of the cost of these programs is born by the federal government by means of social security taxes (payroll taxes), but older individuals can pay a relatively modest monthly premium to get additional coverage. The primary purpose of Medicare is to provide coverage for acute health care problems. It will pay for institutional skilled nursing care and home health care when the need for these services arises out of an acute illness episode. Medicare funds these services, for 100 days following hospitalization or when their use is a cost-saving substitute for hospital care. Thus, Medicare does not cover the costs of such care over a long period of time. In 1980, the average Medicare coverage of a SNF stay was 30 days, much less than the average stay of 456 days for all nursing home patients (Doty et al., 1985). In 1983, nursing home expenditures accounted for less than one percent of total Medicare expenditures.

In addition to Medicare and Medicaid, there are numerous other public programs that provide funds for institutional care. Each of these programs supports either a special type of care (i.e., domiciliary care through Supplemental Security Income payments) or more general care for a specific population (i.e., Veterans). Personal care and domiciliary care facilities can be paid through the Supplemental Security Income (SSI) program, which provides cash assistance to lower income aged. Foster homes can be paid through Title XX funds of the Social Security Act. Congregate housing has been developed with funds from the federal Department of Housing and Urban Development (HUD). These funds have been used to construct housing or to subsidize rents for low income persons. Certain populations are eligible for special long-term care funds. For example, U.S. veterans can receive a variety of health and long-term care services as part of their veteran benefits. Taken together, however, these various public programs account for only about 2 percent of total national long-term care expenditures.

Approximately half of 1982 expenditures for institutional care were from private sources, typically the older person or family members. Private source expenditures amounted to $13 billion in 1983. Private insurance payments accounted for less than 1 percent of total national expenditures for institutional care. In general, private insurance companies in the United States have been reluctant to offer coverage for long-term care services. There is a fear that long-term care policies will only be purchased by high risk individuals.

C. Community-Based and In-Home Services

Long-term care services can be provided in community settings to older adults who live in private homes. For example, respite care offers room and board, some personal care, and surveillance for a short period of time. It is designed to provide families with a few days of relief from the responsibilities of caring for an older and often impaired relative. Adult day care programs offer meals, light nursing, and personal care (and sometimes rehabilitative services). They provide services only during day time hours to older adults who are able to live alone or with relatives in the community. In-home long-term care services are provided to assist the older person in maintaining an independent living arrangement. In-home services can be used to facilitate recovery following hospitalization or to postpone the need for a more restrictive setting such as a nursing home. Nursing, personal care, housekeeping, home maintenance, and meals-on-wheels are the most common forms of in-home services. The amount of service delivered can vary widely--ranging from 24 hour care to a few hours each week, depending upon the needs of the older client.

In-home long-term care can be delivered by formal organizations or members of the older person's informal support network. Formal organizations can provide a wide variety of services, but most frequently they offer home health care, homemaker and chore services, adult day care, meals, and transportation.

Recently published data from the 1982 Long Term Care (LTC) Survey provide some insight into the personal characteristics and service use patterns of the estimated 4.6 million disabled elderly who comprise the community-based long-term care population (Liu et al., 1985). Consistent with previous research, the LTC survey found that 74 percent of all disabled elderly relied exclusively on nonpaid, informal helpers, and another 21 percent used informal helpers in conjunction with paid, formal assistance. Only 6 percent of this population received help solely from paid sources.

In looking at the use of paid and nonpaid help by level of disability, important distinctions emerge. Exclusive reliance on paid help drops from 6.8 percent for the least disabled elderly to 2.5 percent for the most severely disabled persons. Similarly, exclusive reliance on nonpaid helpers drops from 81 percent for the least disabled to 65 percent for the most disabled. Use of both types of help increases with disability (from 12 percent to 33 percent), indicating both a greater level of need and the need for a greater diversity of services by the severely disabled elderly.

In comparing older people who live in their own homes and use home or community-based care with older people who live in nursing homes, we see that the severely disabled elderly live in both settings. For every resident of a nursing home, there are two older people in the community with similar levels of impairment (Doty et al., 1985). The major difference between the institutionalized long-term care population and the community-based one is the availability of resources -- both financial and familial. The severely impaired elderly in the community have more informal help available and more money to purchase formal services.

D. Financing Community-Based and In-Home Services

Despite the enormous contribution of unpaid help in meeting the needs of the disabled elderly in the community, public and private expenditures for home health care amounted to about $4 billion in 1982, or about 13 percent of all long term-term care spending (Doty et al., 1985). The distribution of this $4 billion by payment source is difficult to determine, but we estimate that Medicare spent $1.1 billion on home-based care, Medicaid spent $.5 billion, and other public programs spent $1.0 billion. The remaining $1.6 billion came primarily from out-of-pocket payments by the elderly, with much smaller sums from private insurance, other organizations, and other persons.

Home health care comprises a small part of total public long-term care expenditures in the United States. Public expenditures for home health care are constrained by strict eligibility criteria. It is widely recognized that the need for home services greatly exceeds their current use. But policy officials are hesitant to expand eligibility rules because they fear tremendous increases in utilization leading to higher long-term care costs.

In 1983, Medicare spent $1.5 billion on home care, just 3 percent of its total budget (Doty et al., 1985). However, home care costs have been rising about 30 percent per year for the past decade. Most of these increased costs are the result of increases in utilization, not inflation. There are three reasons for increased use of home care. First, the total number of Medicare beneficiaries has been growing. Second, the proportion of beneficiaries using home care has increased, and third, each client is receiving more visits.

There are other public programs that provide limited funding for in-home services. In 1982, Medicaid expenditures for home health care were almost $500 million, about two percent of its budget. Title XX of the Social Security Act and Title III B and C of the Older Americans Act also cover some community-based and in-home services. The amounts that these programs spend on noninstitutional long-term care are very difficult to determine. Using data from Lloyd and Creenspan (1983), we estimate that in 1979, Title XX spent about $600 million on in-home services and adult day care, and Titles III B and C spent about $70 million on in-home services and home delivered meals. Given these rough estimates, it is clear that Medicare provides the bulk of public support for home and community-based long-term care. Furthermore, the vast majority of public spending for long-term care goes to support the elderly in institutions, as opposed to the noninstitutionalized, impaired elderly.

Against the backdrop of population aging and long-term care in the United States, we will examine their relevance to China. To provide the proper context, population aging in China will be reviewed first.

IV. Population Aging in China

With a relatively high fertility and a low mortality rate during most of the three and one-half decades since 1949, China has been a "young" population. The death rate declined from 25.5 deaths per 1,000 people in 1953 to 7.3 per 1,000 in 1981. This decline was interrupted by an increase in the death rate reaching 38.8 deaths per 1,000 during the food crisis years of 1958-1961 (Coale, 1984). On the other hand, between 1950 and 1982 the birth rate fell by 50 percent. This decline was not smooth or steady in that it sharply fluctuated with changes in political upheavals and birth control programs.

In 1950, the rate was 41.3 births per 1,000 people, a level that had prevailed for two decades. As a result of the Great Leap Forward in 1958-1959 and the famine of 1960-1961, the birth rate fell to around 25 per 1,000 in 1959-1961. During the Cultural Revolution of the 1960's, birth planning was abandoned. Consequently, the birth rate rose rapidly to 39 per 1,000 in one year. The full effect of organized population control began to be felt in the 1970's. The birth planning campaign was launched with the slogan "Later, Longer, Fewer" in 1971. It was succeeded in 1979 by an even more restrictive program: the one-child campaign. By 1980 the birth rate had decreased to 18.5 per 1,000. (According to the 1982 census, there has been a recent increase in the birth rate to 21.1 per 1,000 population). The consequences of such a substantial decline in fertility have been a subject of intense examination.

According to the Chinese government, the largest population China can support is 1.2 billion, or 200 million more than its 1982 population. Projections concerning the effect of an immediate decrease in birth rate to a level commensurate with an ultimate constant population of 1.2 billion reveal two major implications. First, in the middle of the 21st century, China will have a substantially older population. For instance, in 1980 Chinese elderly (60 years of age or older) accounted for some 8 percent of the total population. This proportion is projected to grow to 11 percent in the year 2000 and to 20 percent in 2025. The fraction of retirees would begin to increase sharply after 2005. By 2040, when the last of the cohorts born between 1960 and 1979 reach 60 and retire, the retiree to worker ration would reach the highest level: 32 retirees for every 100 workers (Keyfitz, 1984). The projected population aging would undoubtedly entail a substantial burden for old age support. This is further exacerbated by the fact that old age support would compete for much needed resources for economic development in China.

The second implication concerns the impact of reduced fertility on Chinese families, which in turn would have profound implications for old age support. If a constant population of 1.2 billion as targeted by the Chinese government is achieved, Chinese married couples must average fewer than two children for much of the 1990's, a figure less than that in most developed countries (Coale, 1981; Keyfitz, 1984). As a result of the one-child family policy, the absence of siblings, the subsequent loss of in-laws, uncles, aunts, and the thinning out of extended consanguineous relationships would remove a large number of branches from the family tree. This reduced average family size is most likely to weaken the family network which has been the backbone of old age support in China.

V. Some Implications for Long-Term Care in China

Against the backdrop of the projected Chinese population transition and the American experience with aging and long-term care, this section reviews some implications for long-term care in China. Given that China differs greatly from the United States in terms of social and political systems, cultural values, and the degree of economic development, extreme caution must be exercised in drawing on American experiences and approaches. Nevertheless, efforts can be made to identify some future policy concerns related to long-term care. In particular, it is pointed out that the demand for long-term care will increase substantially as a result of population aging and epidemiological transition. Such a demand will also be affected by the uniquely Chinese context and concomitant processes including (1) the current long-term care policies, (2) changes in the family structure, (3) the sharp contrast in the standard of living between urban and rural areas, and (4) the recent economic reforms and their consequences. Accordingly, attention should be directed to (1) the prevention and management of chronic illnesses, (2) further development and implementation of a spectrum of long-term care, including an insurance and financing structure, and (3) the development of capabilities for the analysis of and planning concerning aging and health issues.

As a result of population aging, the demand for long-term care in China is expected to increase substantially. Currently, the majority of such care is provided by the family or volunteers in the community, whereas institutionalized care is reserved as the last resort. Nationally only

169,000 elderly people or .33 percent of the 65 and over population were institutionalized in 1984. In the urban areas, there were 684 social welfare homes caring for some 22,000 elderly people; in the rural areas, there were 11,000 homes for the aged which cared for some 147,000 older people (Tau, 1984). Nevertheless, estimates of the institutionalized elderly in the countryside vary considerably. Some estimates were as high as 21,000 homes housing 241,000 elders in the rural areas (State Statistical Bureau, 1985). Furthermore, as noted by Davis-Friedmann, the number of institutionalized has fluctuated greatly over the past 30 years in reaction to changing governmental policies (Davis-Friedmann, 1983).

Another factor accounting for a low rate of institutionalization is the relatively young age composition of the elderly population. In China the proportions of the aged population in the 75-79 and 80 and over age groups are 11.2 percent and 6.65 percent respectively. The proportions in the United States are 12.5 percent (75-79 age group) and 14.9 percent (80 and over age group). As a consequence of population aging, the proportion of the oldest old can be expected to grow rapidly. Given that the oldest old are much more vulnerable to chronic illnesses and consume a disproportionate share of health care resources, their rapid growth would be a major concern in aging and health policy making.

Since the early 1970s, major increases in life expectancy in old age have been realized in the United States. It was projected that between 1980 and 2040, life expectancy at 65 would vary from 14 to 23 years (Manton and Soldo, 1983). Such improvements have obvious implications for program planning. For age-restricted programs, such as Social Security and Medicare, life expectancy at entitlement age represents the average number of remaining benefit years. For a given age distribution, the sum of "person-years," life expectancy at age x and the number of individuals survived to age x, represents the current liability of age-restricted programs. In the United States, female life expectancy at age 65 has increased by 21.8 percent since 1960. More importantly for health policy, life expectancy at 85 has increased 23.7 percent since 1960 and is projected to increase another 43.8 percent by 2040. During the same time, the number of women 85 years of age and over is estimated to increase 51 percent, resulting in a 117 percent increase in the person-years lived by these people. Accordingly, a major challenge in health planning for the elderly in the United States is to anticipate future changes in life expectancy and associated health status. As life expectancies in old age improve in China, policy makers and planners of health services will face similar challenges.

In addition to population aging, several concomitant processes are likely to have a significant impact on long-term care in China. For example, China's efforts to reduce the incidence of communicable diseases and the prevalence of malnutrition have greatly reduced mortality rates and led to a dramatic increase in life expectancy. These accomplishments have transferred the burden of China's health problems to the older age groups, who are particularly vulnerable to chronic disorders. Cardiovascular disease, cancers, strokes, and chronic obstructive lung diseases are now the four leading causes of death (Jamison et al., 1984). This problem will worsen considerably as the population ages, which in turn will increase the demand for long- term care.

Our projection clearly indicates that China will have a substantially older population in the middle of the 21st century. Equally important is that longer life means that there are more surviving individual young-elderly connected kinship groups, because such relationships are much less often broken by death. A primary policy concern is to provide adequate old age support in the years to come. Presently because of the small proportion of the older population, the needs of China's aged are being met by family initiatives and to some extent by state pensions. With the projected sharp increase in the number and proportion of old people and the decrease in average family size, the present system of old age support will be under severe strain. As a result of the one-child birth policy, the absence of siblings, the subsequent loss of in-laws, uncles, aunts, and the thinning out of extended relationships China will see removed,a large number of branches from the family tree. This is most likely to weaken the family network that has been the backbone of old age support in China. The goals of family planning are clearly in conflict with the traditional family-based old age support system. To attain the objectives of both birth control and old age support, non-family based options for supporting the elderly, such as the public old age pension systems in the developed countries, need to be explored (Liang et al., in press).

China has a highly regulated economy. Its record in mobilizing physical and human resources and in reducing serious poverty has been outstanding. But the state economy is also characterized by inefficiencies in production and in matching supply with demand. These shortcomings have prompted reforms at providing more flexibility and stronger incentives to seek efficiency. Since 1980, a revenue-sharing system has given provincial governments incentives to increase revenues, reduce waste, and to tailor expenditures to local needs. Many state enterprises are now allowed to retain 10 percent of their profit and to have more control over their own production. The scope for private and collective enterprises in urban areas has been enlarged. In addition to the state's unified distribution system, the number and variety of commercial channels have been increased. In the rural area, the production responsibility system has been implemented. Clearly, many more inflexibilities in the economy need to be eliminated in order to accumulate sufficient funds for economic development. This is critical for the establishment of a national social security system which provides meaningful support in terms of income and health care.

Aging policies in China cannot be adequately addressed without taking into account the disparities in economic well-being and health between the urban and rural residents. The average income in urban areas is estimated to be more than twice as high as its rural counterpart (Keyfitz, 1984). In 1981, urban income per capita was 500 yuan, whereas rural income per capita was only 223 yuan (State Statistical Bureau, 1985). Moreover, in urban areas, pension programs are much better developed, whereas the rural labor force must depend on adult children for old age support.

Furthermore, major disparities continue to exist between rural and urban areas in availability of health services and health status. For example, in 1980 there were 3.7 hospital beds per 1,000 in urban areas but only 1.5 per 1,000 in rural areas. The distribution of physicians is even more uneven with 2.4 per 1,000 in the cities but .5 per 1,000 in the countryside (Hsiao, 1984). A particularly important development for rural health care in China is the decline of rural cooperative health insurance systems after production responsibility systems were introduced. In 1975, 85 percent of the production brigades had such insurance, but this figure had declined to 58 percent by 1981. Consequently, some one-half of the rural population must pay full price for medical services. This proportion is likely to increase. Although health conditions in the cities are very good, many rural areas lag the cities by 5 to 10 years in life expectancy. Furthermore, the conditions of perhaps 100 to 200 million rural Chinese still remain similar to those in typical developing countries (Jamison et al., 1984). Thus, income maintenance and health care for the rural elderly population deserve special attention.

Given the anticipated consequences of population aging and the concomitant processes, several priorities related to long-term care can be identified. First, because the need for long-term care is often a result of chronic diseases, the development of effective and low-cost strategies for dealing with these disorders is critical. In this regard, temptation to emulate high-cost curative approaches must be resisted; many of these have been proved to be not efficacious and have resulted in a massive drain on national economic resources (Jamison etal., 1984). Although prevention is relatively difficult for most chronic illnesses, some such measures can taken, especially with respect to the control of salt intake and tobacco consumption. China has a high incidence of hypertension. This in turn leads to heart disease and stroke, which are major public health problems in China today. Tobacco consumption in China has been high, which has a direct linkage to increases in lung cancer and chronic respiratory diseases. Consequently, emphasis should be placed upon the development of strategies for prevention of chronic diseases (Jamison et al., 1984).

In view of the fact that the population in China will become older and sicker and the average family size will be substantially reduced, the current system is unlikely to meet the increasing need for long-term care in the future. Alternative mechanisms, institutional as well as community based, need to be explored. Given the American experience, the development of long-term care should emphasize the provision of a spectrum of services in a variety of settings that would offer many options to individuals with different needs.

Although more non-family based options for long-term care need to be developed, the strong Chinese family institution can lead to a hybrid system in which not all responsibilities are turned over to non-familial institutions. It may be possible to create some meaningful linkages between formal long-term care services and aspects of the Chinese family. This may hold some promise in terms of cost containment and improvement of the quality of life.

The Japanese have taken a number of steps that are illustrative of policies to support and encourage families which are caring for the elderly, including: (1) tax benefits to children for care of those over 70 whose income is low, with greater benefits if the elderly live with the taxpayer and additional benefits if the elderly are bedridden; (2) loans to caretaking children who build or remodel a home for independent space for older parents; (3) provision of special equipment for care of the bedridden; and (4) short-stay service at a nursing home during periods when a caretaking child cannot provide the service (Maeda, 1983). Japanese younger couples are reporting, for example, that some aspects of the home care for the elderly are very difficult burdens. Obviously, how to allocate both the actual care and the financial costs of care for the elderly requires careful study and experimentation.

Perhaps valuable lessons can also be learned from the difficulties confronting long-term care programs in the United States. These difficulties center around three major issues: cost, access, and quality of care. To a certain extent, these difficulties lie with the current nonsystematic approach to long-term care. With regards to cost, much attention is directed to rising expenditures. The increase in nursing home expenditures has been particularly rapid, rising from $7.2 billion in 1973 to over $17.8 billion in 1979. This was an increase of 148 percent, compared with a growth of 64 percent in the consumer price index and 81 percent in the Gross National Product. On the other hand, private expenditures for long-term care are the leading cause of catastrophic health expenditures. Furthermore, if the present utilization rates continue, the total nursing home population will rise 54 percent over the next 20 years and will more than double over the next 50.

Current public programs in the United States provide much greater support for institutional care, accounting for over 90 percent of all long-term care expenditures. A substantial proportion of nursing home residents could be maintained at home or in other noninstitutional settings if support services were available. Under the current flat rate reimbursement system, Medicaid recipients and severely disabled patients have difficulty obtaining nursing home placements. In addition, as indicated previously, the availability of long-term care services varies greatly among and within states. Given that most variations do not appear to be related to needs, this raises the issue of equity. Consequently, many people who require some form of long-term care, particularly noninstitutional type, do not receive services.

There have been recurrent difficulties concerning the quality of nursing home care. Major unresolved issues include (1) the recruitment, retention, and training of nursing care staff, (2) the lack of physician involvement, (3) over medication to ease the management of patients, (4) maintaining the quality of institutional life, and (5) better services and care for the mentally ill. Considerably less is known about the quality of noninstitutional services. The regulation of quality is more difficult in communities than in institutions because of the decentralization. However, the very fact that a patient is not a potential "hostage" in an institution should mitigate some problems.

Though a variety of service delivery modes and programs exists in the

United States long-term care sector, they have not developed evenly and are not treated uniformly by public programs subsidizing long-term care. Ignorance about the costs and other impacts of subsidizing a comprehensive array of services has forestalled development of a more systematic approach. Strong fears exist that a more complete system subsidized by public funds would primarily serve persons not presently receiving care, while eliminating a large proportion of informal care currently being provided. As a result, it could be extremely costly. Hence, current national long-term care policy has limited its concern to the potentially most pressing cases, those in need of institutionalization. Other forms of long-term care have evolved in a haphazard fashion dependent on the success of their proponents in competing with other interest groups for experimental or multi-purpose funds. The end result is that long-term care is delivered in a inefficient and inequitable manner (Scanlon et al., 1979).

Finally, central to the success in addressing China's need for long-term care is the development of capabilities for innovation, experimentation, and analysis of aging and health problems. In addition to the technical expertise in biological science and clinical medicine, skills and experience in health planning, statistics, resource allocation, and management are essential. In conjunction with a sufficient number of trained professionals (including health care providers and gerontologists), the development of adequate data bases and appropriate planning models are critical. In this respect, the United States experience in collecting demographic and health data and constructing simulation models can be useful.

While the need to think of long-term care as a system seems apparent, the method of generating information for making policy decisions is not clear. Much of what is currently known about the impact of alternative delivery mechanisms for medical and social services has come from a multitude of demonstrations, experiments, and small program operations spread across the country. None of these alone has been of sufficient magnitude in terms of either persons served or length of operation to develop any conclusions about the operation of a comprehensive system. For this disparate information to be useful, synthesis is required (Scanlon, et al., 1981).

Clearly a synthesis, such as a simulation model for a long-term care system is most useful. Such a model would provide a framework for assembling and testing the implications of existing data. It would allow determination of whether information from different sources is compatible and could be combined. It would indicate what types of information are lacking and, through sensitivity analyses suggest which are most important. An operational model might shorten the time in which a comprehensive policy toward long-term care could be designed, exploiting the synergism among existing experiences. Further, it could speed the process by indicating the priorities to be assigned to gathering data in the future through surveys, experiments, and demonstrations (Manton and Soldo, 1985; Liu et al., 1985; Scanlon et al.,1981).

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THE PRESENT STATUS OF GERIATRICS IN CHINA

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I. The Basic Facts of Aging in China

Since the founding of the People's Republic of China the average life span of Chinese of all nationalities has been getting longer. Now in China more than 80 million people are over 60 years old, and 3,700 are over 100. High incidence of longevity occurs in such regions as Xinjiang, Tibet, Qinghai, and Guangxi. These are regarded as "longevity areas".

The diseases encountered most commonly in the elderly, in order of frequency, are hypertension, chronic bronchitis, and coronary artery disease. The major causes of death in the elderly are cerebral stroke, pulmonary heart disease, pneumonia, myocardial infarction, and cancer. Thus they constitute the major health hazards to the elderly.

Factors that prolong life have also been investigated. It is believed that genetics, eugenics, environments, micro-elements, diet, labor, exercise, psychological state, and regularity of life are among the main factors.

There are two special features to be mentioned about geriatric work in China: (1) the practice of Chinese traditional medicine and (2) the development of health care maintenance through basic health organizations.

II. A Brief Review

The clinical and research work of geriatrics in the People's Republic of China started as early as the middle 1950s. Clinical research on common diseases of the aged was stressed in many places in China, such as Beijing, Shanghai, Canton, and Wuhan. The laboratory studies of atherosclerosis and anti-aging drugs and epidemiological studies, particularly of the long-lived old, were done with some success. In 1958 the laboratory of geriatric research was set up in the Institute of Animal Research of the Chinese Academy of Sciences. Morphological changes of tissues and cells of various organs in rats and rhesus monkeys of different ages were observed, and the deposition of lipofuscins were compared among them. In experimental studies, the effects of novocain on the life span of fruit flies and silkworms were observed, and an experimental model of rats with atherosclerosis was established to explore the formation of lipofuscins. Through compilation and analysis of prescriptions of Chinese traditional medicine and the trial use of Fructus Lyii wine and Walnut pill we determined some physiological and biological indices.

Medical personnel were organized to investigate centenerians in Xinjiang and explore their ways of living. Medical teams from Wuhan, Canton and Guangxi conducted a survey of the long-lived people in the Wuhan area and Bama

County of Guangxi. All of this work was presented during the First National Academic Conference of Gerontology and Geriatrics which was sponsored by the Chinese Medical Association in 1964. Owing to the ten years of turmoil during the "Cultural Revolution", all work had to stop until 1978. Since then, gerontological and geriatric studies have gained a new momentum. Research institutions for geriatrics have once again been set up in many places. Research work is being steadily carried out in basic medicine, clinical medicine, preventive medicine, epidemiology, senile biology, and senile psychiatry. Books on geriatrics have been compiled and journals published. The Chinese Society of Geriatrics (formally established during the Second National Academic Conference held in 1981) has forcefully pushed forward geriatric work in China. At present, there are 30 or so geriatric institutes, laboratories, or research groups with 31 branches all over China. All of them are affiliated with general hospitals. Research on aging has resumed in the Cytobiology Laboratory of the Institute of Animal Research and a Senile Psychology Research Group has been set up in the Institute of Psychology under the Chinese Academy of Sciences.

III. Epidemiology Study

A survey team jointly organized in 1979 by Canton, Wuhan, and Guangxi medical workers systematically investigated people over 90 years of age in 5 communes of the Bama County of Guangxi. This was immediately followed by a study of the social situation of the elderly, a general survey of the health of the aged, and a survey of long-lived elderly in selected locations in Canton, Wuhan, Beijing, Shanghai, and other parts of China. The relation-ship between longevity and genetics, geography, environment, climate, nutrition, trace elements, and social activities was explored. The incidence of common diseases in the aged was analyzed statistically. In the past 3 years a large-scale general survey has been coordinated by several institutions in South, Central, North, and Northeastern China to estimate the physiological status of 22,700 old people. A program of long term longitudinal research on the aged has begun in medical institutions in Beijing and Canton. After the national census in 1982, a survey of centenerians revealed that 60% had a family history of longevity, indicating a very important role for the genetic factor. The survey also showed that nearly all of the long-lived elderly still engaged in physical labor, maintained high spirits, followed a daily routine, ate properly, and had sufficient sleep.

Due to the great increase in the average life span of Chinese people in the past 30 years, the percentage of elderly patients in hospitals has greatly increased, and the primary types of illnesses have also changed. Now the leading cause of death among the aged are, first, cerebro-vascular and cardio-vascular diseases and, second, tumors and respiratory system diseases. The only difference that might exist among different localities is the order in which these diseases are arranged. Retrospective longitudinal analysis by some units has discovered that the onset age of senile degenerative diseases for most people is between age 60 and 69, indicating that active intervention prior to the onset of senility is necessary.

IV. Clinical Research

Clinical research, performed mainly as part of the routine work of clinical departments, has centered on the study of diagnostic, therapeutic, and preventive measures. The most commonly seen diseases are acute cerebral stroke, acute myocardial infarction, acute heart failure, arrhythmia, pneumonia, diabetes mellitus, thyroidism, and tumors. Infectious diseases such as viral hepatitis, epidemic encephalitis B, and bacterial dysentery were also reported. The impression formerly held that old people seldom had pulmonary tuberculosis, cholecystitis, cholecystolitiasis, and gout has shown to be wrong, though the symptoms and signs in the old people are different than in the young. Progress has been made in diagnostic methods and the treatment of cerebro-vascular diseases, and due attention is given to the prevention and treatment of transient ischemic attack and reversible ischemic nervous lesions. Experience in anesthesia and surgical procedures for the aged shows that old age is no longer a contraindication for surgery. As to the problems of administration of drugs, including infusion, much attention is paid to differences in drug tolerance and sensitivity among the aged; thus the method of administration and dosage are adjusted individually. Therapeutic procedures have been studied on the basis of western medicine, Chinese traditional medicine, and the integration of both. Recently, a study of herb drugs that activate blood circulation and eliminate the stasis in Chinese traditional medicine for the treatment of ischemic cerebro-vascular diseases and coronary heart disease has achieved some success. It has proved that these herb drugs are effective in decreasing platelet aggregation, improving microcirculation, regulating body metabolism, and raising the body tolerance of anoxia. Advances have also been made in functional examinations and diagnostic measures for the old people, if emphasis is given to non-traumatic means. Studies have been done on changes of nail-bed microcirculation, microcirculation of conjunctiva, and their relations with hypertension, arteriosclerosis, and chronic bronchitis. In the theory of chronic diseases due to deficiency of vital energy and lowering of body resistance.

V. Determination of Various Physiological Parameters of the Old People

In clinical geriatrics work a problem of primary importance is the normal physiological indices of the aged. In the past 3 years a nation-wide study of various physiological parameters has shown that many physiological indices of healthy old people are significantly different from those of the young. The determination of trace-elements in blood and hair has been observed, but until now no unified normal values based on age difference have been available.

VI. Research on the Changes of Old Age and the Mechanisms of Aging

Changes due to aging were observed morphologically and pathologically in the brain. The decreased number of neurons and degenerative changes inside them were prominent in the aged. They were best demonstrated in substantia nigra, hippocampus, and corpus striatum. These changes were observed to be closed correlated with clinical manifestations. Hemadynamics of the aged was also studied. It showed that blood viscosity, fibrinogen, and red cell sedimentation rate increased with age. Microscopic observation of platelets of the aged revealed that there were more dendritically shaped changes with aggregated masses, demonstrating a potentially high platelet aggregation state in the aged. In the field of immunology, the change of T cells and their subtypes, conversion rate of lymphocytes, change of immunoglobulins as well as changes of autoimmune antibodies and immune complexes were investigated. In the animal experiment on rats, it was observed that the contents of transmissive aminoacids in the caudate nucleus, cortex, and spinal cord had some changes. The inhibitory effect of vitamin E on the formation of lipofuscins of intestinal epithelia and the promotion of the production of prostaglandin F in the domestic flies were studied. The integration of traditional medicine and western medicine has been used to study the objective indices for senile deficiency of vital energy and the stagnation of blood.

VII. Study of Anti-Senility

Anti-senility research is done in two ways: (1) experimental study of anti-senility based on factors affecting aging, and (2) the summing up of the experiences and experiments based on Chinese traditional medicine. These include research on anti-senility drugs, Chinese traditional body building sports, diet and nutrition, mental life, and social living. Anti-senility drugs were chosen from Chinese traditional herb drugs which were observed in cell culture, animal experiments, and clinical trials. The most frequently used herbs were Polygonum multifiorum, Fructus psoraleae and Radix rehmanniae. Animal experiments with a mixture of Jingseng demonstrated that lipofuscin in the intestinal epithelia of domestic flies was far lower than in the control group. The effects of Lucid gonoderma, Radix astraglus, and Radix acanthopanacis sentixosi on the life of fruit flies were also observed. Traditional Chinese body building sports are very popular among the masses, such as shadow boxing, traditional breathing exercises, and traditional massage, and all have been shown to give definite benefits. In the recent years, it has also been shown that adding certain traditional herbs to ordinary meals also benefits health.

THE THRIVING PHYSICAL EXERCISE ACTIVITIES AMONG THE CHINESE ELDERLY

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The problem of aging is a critical social issue in today's world. It is of strategic importance in relation to social and economic development. China has the world's largest elderly population. At the end of 1985 there were 85 million people 60 years and above, accounting for 8.2% of the total population. Though as yet China has not become a country with an "aged population," it is of profound political significance to care for the 85 million elderly people. This is an important aspect of the on-going construction of a socialist "spiritual civilization," as well as a major indicator of the superiority of the socialist system. Our government has been paying great attention to the affairs of the aged. While carrying on the nation's fine tradition of "respecting, loving and supporting the aged," the government has in recent years added the new goals of "guaranteeing aged people (1) the economic necessities of life, (2) social roles to play, (3) opportunities to study, (4) medical care, and (5) recreational facilities", in order for all the aged to improve their health conditions, extend their life span, spend their later years in happiness, and make further contribution to the drive of the "four modernizations." It is under such social conditions that the physical exercise activities among the aged in China are developing rapidly and serving as a major step in realizing the five new goals mentioned above.

The laws of natural life can not change; growing old is inevitable. However, it is possible to defer senility and prolong the life span. Since the dawn of civilization, practical experience and empirical studies in China and elsewhere have shown the connection between longevity and physical exercise. Exercise builds up the constitution, improves health, prevents disease, and prolongs life. For instance, in ancient China some specialists and medical experts illustrated the importance of physical exercise to health with such sayings as "running water is never stale," and "a door-hinge never gets worm-eaten." Bian Que, a well-known doctor in the Spring and Autumn Period,[1] used "Yindao" (a method of exercise similar to the present-day free-standing exercises) as a way of preventing diseases. In China most long-lived people have done physical exercises. Sun Simiao, an ancient medical expert, lived for 101 years. His secret of longevity was "frequently exercising the four limbs, doing daily manual work, practising medicine, collecting medicinal herbs up on the hills, keeping moderate in diet, chewing carefully and swallowing slowly." Of the 286 octogenarians selected as "healthy elders" in 1985, everyone had his or her way of doing physical exercise. For example, Mr. Wu Tunan from Bejing is 103 years old. He is interested in martial arts and good at "taijiquan." In good health, he moves with ease and is clear-minded and still studies martial arts. Some physical culture researchers in Beijing once analysed the relationship between heart functions and exercise. The average heart function index of the seventeen people who had the habit of jogging was as high as 71.6. That of the twelve people who had not undertaken any physical exercise was only 21. Huang Zhunli is a 74 year-old retired cadre in Tongan County, Fujian Province. He has been jogging and exercising since he was a youngster. He has never sufferd any illness and is still energetic and can even make long-distance trips by bicycle. Those who only start physical exercises in old age have also achieved positive results. Liu Wenshe, former president of the Henan Institute of Education, used to be afflicted with several diseases in her sixties. After six operations in one year, she was so weak that some thought that she would not survive for long. Since she started to practise "qigong" in 1980, her health has greatly improved, and she has regained the ability to work. A popular saying in China goes like this: "the stick previously used as an extra leg when an aged person was reluctant to exercise can be used as a practising rapier by the same person after exercising actively." This saying vividly describes the new lease on life among former elderly invalids who have taken part in physical exercise.

There are many factors conducive to health and longevity, but among them scientifically pursuing physical exercise is indispensable. With the increase of age, organic functions decline, adaptability to the external environment is weakened, and illness is more likely. Thus it is of particular necessity to undertake physical exercise in old age. Over the past few years, government organizations at all levels have paid great attention to promoting physical exercise among the aged. More and more people have come to realize the importance of physical exercise for improving health and preventing illness... Consequently, physical exercise has gained popularity among the aged and formed an integral part of their lives. In urban areas, it has become a daily routine for many to get up early to spend some time on shadow-boxing, free-standing exercises, "qigong," or jogging. All over the country, there are about 15 million elderly participating in various physical exercise activities, most of whom are urban residents. Every day, there are over 0.5 million in Beijing taking part in such activities as "taijiquan," "qigong," and jogging. In Shanghai and some other areas the aged are encouraged to "walk for ten thousand paces every day," and walking is becoming a popular exercise among the elderly. In many cities, there are old folks' teams with regular training sessions for long distance running, table-tennis, basketball, and "menqiou" (a ball game). In most cities and counties, every year during the new year and spring festival, long-distance races are held for the aged, and some regional and inter-city competitions have developed into regular events. For example, six cities in east China now sponsor an annual inter-city long-distance race, and of all sports games held in Beijing, one third are small-scale ones held by neighbourhood committees and include elderly people. A national invitational tennis tournament is held in turn in different provinces, autonomous regions, and municipalities directly administered by the Central Government. Over the past two years, some Chinese elderly have participated in international games. Teams were sent to the United States and Britain to compete in the 17th and 18th International Tournaments of Long-distance Racing for the Elderly. Stepping beyond the thresholds of their houses and taking part in physical exercise activities, the aged have enriched their lives, found more pleasure, and acquired great satisfaction. Some aged people have said with deep feeling: "In the old society the aged grew withered without receiving any attention; today the aged live in a time of social prosperity and are delighted enough to feel younger."

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[1] 722-484 BC. [Editors]

In China, there are many traditional exercises for the aged. However, during a long period of time, only a small number were regular participants. It is only in the past several years that physical exercise activities have gained increasingly wide popularity among the aged. As a matter of fact, it is easy to explain the benefits of physical exercise to the aged, but it is difficult to make it a daily routine among them. In this regard, we have made a good start. The ensuing discussion will be focued on recent developments in this area.

Physical exercise activities among the aged receive great attention and support from the government and society. Activities are based on practical conditions, diversified, geared to the individual, carried out under scientific instruction, and designed to guarantee safety. These aspects can be further elaborated as follows.

(1) Organization and administration. In 1983, with the authorization of the State Council, the Chinese Old Folks' Association of Physical Culture and Sports was established. Subsequently, similar organizations were established at various administrative levels... At present, there are 29 associations of this type at the provincial level (including one affiliated with the railway system), 300 at the level of prefecture or city, and over 1,000 at the level of the county. In some urban

neighbourhoods and rural townships old folks' associations of physical culture and sports have also been set up. The total number of members in various associations exceeds 0.2 million. These associations are non-governmental. Their staffs consist of representatives from government departments and non-governmental institutions, senior specialists of physical culture and sports, and some activists, working under the general supervision of the government departments of physical culture and sports, and the China National Committee on Aging. Some highly venerated senior citizens, who have been actively involved in physical exercise activities and are willing to serve, have been elected to assume the leading posts of these associations and are assisted by about 5,000 full-time and part-time staff members all over the nation. The financial resources are appropriated as budget expenditures by the government departments of physical culture and sports or as subsidies from local governments, supplemented with non-governmental funds and membership fees. In 1985, the total funds of these associations amounted to approximately 10 million yuan.

(2) Individual and diverse exercise programs. Most elderly are not in excellent physical condition, and many are afflicted with chronic diseases. A survey in Beijing indicates that 74% of the aged have at least one chronic disease, and most have no previous experience or strong interest in physical exercise. Thus the physical exercise activities among the aged should be centered around improving health conditions, revitalizing the organic functions of the body, and preventing disease. To this end, exercises should be chosen so that the aged can enjoy them without losing interest. "Qigong" and "taijiquan" are two traditional exercises for maintaining good health. The origin of "qigong" in China dates from 2,000 years ago. It is a unique way of activating all parts of the body and has positive effects on human organic systems. Through breathing exercises, all the organs and systems in the human body work in concert, function with reinforced vigour and become less vulnerable to disease. It is a "self-centered" exercise method. "Taijiquan" is a kind of martial art. Its mechanism is quite similar to that of "qigong," but it is a more "dynamic exercise." The rhythm of its slow movement is like floating clouds and flowing water. A person has to orient his mind to the movement of his body and adjust his actions to his breathing. After a round of exercise, one seldom feels exhausted or in a sweat. Persistent exercise is conducive to improving health and preventing, even curing, chronic diseases. The Gerontological Society of Hunan conducted a survey among 126 people in the Minzhu Dongjie Neighbourhood in the city of Changsha who had suffered cardiovascular disease and then started to receive physical exercise therapy. Under the instructions of experts, they practised "taijiquan," "taijijian," "qigong," and other types of exercise. After one year of treatment, 20 of them had regained good health, 100 had improved their health, and only 6 did not achieve any positive results. In view of the fact that many aged people, especially women, have never taken part in physical exercise and have difficulty grasping the basic skills of some exercises, medical workers and physical exercise specialists

have successfully worked out some simplified and easy-to-learn setting-up exercises. For example, the "18-step exercise therapy" developed in Shanghai is designed for the aged to exercise those parts of the body little used in daily life and work but frequented by disease. Over 90% of those who used to have chronic pains in the neck, the shoulders, the waist, and the legs have improved their condition after doing this exercise. The "Spring-return Setting-up Exercise" in Beijing is a whole-body exercise. It is based on massage and accupoint-striking and is simple enough to be learned on the spot. Many house-wives do this exercise. Though there is also inspiration for new-comers to take part in modern sports activities such as heel-and-toe walking, long distance racing, swimming, and ball games, most participants in these activities are those with previous experience and in rather good health. To cater to the various interests of elderly individuals, the associations also encourage and sponsor cultural activities conducive to physical and mental health, such as music, chess, calligraphy, painting, gardening, and bird keeping. All of these appeal very much to the aged.

(3) Scheduling to fit local conditions. The elderly are scattered throughout the communities and some have difficulty getting about. Therefore, for the purpose of facilitating access to physical exercise... in urban areas, efforts have been made to take advantage of parks, gymnasiums, greens, squares, and other open grounds to run various instruction centers, each of which is staffed by a couple of instructors. In many cities there are dozens or even several hundred instruction centers with between hundred and several thousand instructors. This indicates that a network of physical exercise instruction is spreading. For example, in Beijing about 5,000 people have been trained as instructors of "taijiquan," "taijijian," and "qigong," and are working for about 0.5 million people at 200 instruction centers.

(4) Methods and safety. First, it is important to teach the elderly about the fundamental principles of physical exercise, the basics of hygiene, and the scientific methods of exercise. In addition to the instruction through magazines, newspapers, radio, and TV, special lectures are also effective. In 1985, the Journal of Sports, the Journal of Health, and the magazine Life Lies in Exercise sponsored a lecture series on gerontological issues. A number of experts and scholars were invited to give talks on thirty-one topics. Over 5,000 people attended, over five hundred sets of tapes were sold, and about one million people tuned in to the radio relay. Many other cities and counties held similar lectures. Some old folks' universities introduced physical exercise classes. Such steps have been regarded by the aged as being very helpful to the improvement of their knowledge, daily life and health conditions.

Second, greater attention has been paid to medical surveillance. At some instruction centers, participants have been interviewed about their health after exercising. On the basis of such information, the amount of exercise has been adjusted and the elderly instructed in a personal regime of exercise. Where necessary facilities are available, check-ups have been conducted. For example, the Old Folks' Association of Physical Culture and Sports in Luwan District of Shanghai conducted thorough health examinations for its 3,000 members and discovered 96% of them were afflicted with chronic diseases.

Third, health consulting services have been developed. The Gerontological Society of Shanghai has organized some retired doctors and "qigong" experts to provide consultations concerning health keeping in old age and help orient the aged in the pursuit of scientific ways of exercise. The Old Folks' Association of Physical Culture and Sports in Jiangan District of Wuhan has set up a clinic to conduct health examinations and suggest specific ways for the elderly to exercise. On an average 2,000 people visit this clinic each month.

Fourth, before taking part in games of strenuous exercise, the elderly participants must receive a check-up and present health certificates for registration.

China has the largest number of elderly in the world. Promoting physical exercise activities among the aged and improving their health conditions are of vital importance to the social development of our country. Today, in urban areas there is already rather wide participation in physical exercise activities. In rural areas, however, work is just starting. But with the development of the rural economy and culture, we expect that in the future physical exercise activities among the aged in the countryside will flourish. It is therefore possible that China will soon have the largest number of elderly participating in physical exercise activities in the world and that physical culture and sports will play an increasingly important role in the affairs of the aged.

PART VII

CLOSING CEREMONY

AN OVERVIEW OF THE CONFERENCE AND ITS DISCUSSIONS

James H. Schulz
Kirstein Professor of Aging Policy, Brandeis University, USA

We have reached the end of our discussions. And it is now my job to make some summary and concluding comments.

Before I do that, I wish to speak on behalf of all the delegates coming to this conference from abroad. It has been a wonderful opportunity for us to meet so many of our colleagues from China. We believe that the friendship and good will established this week will continue for many years to come. And, most importantly, we look forward to the further exchange of ideas and research findings in the future.

We will soon return to our home institutions -- to continue our investigations into the issues and problems of aging. Great distances will again separate us. However, I am sure we are all willing to do our part in promoting continuing international cooperation in aging.

And now may I add a personal comment. Four years ago I first had the idea for this conference -- a conference to focus on the social and economic support issues arising out of the demographic shifts occurring in developing countries. As I thought about the issues, developments in China attracted my attention and, I might add, the attention of the world. For many years, we have known that population increases threatened to wipe-out the economic achievements in many developing countries of the world. Aware of that possibility, the leaders of China proposed a bold experiment to limit population growth. To those working in the field of gerontology, however, that experiment signaled a rapid aging of China's population and raised issues about social and economic support in old age. And as we now know, as a result of those new population policies, China, in a few decades, will go through a demographic transformation that took over one hundred years in the West.

In my view, a bold new experiment with regard to the young by necessity also demands a bold new experiment with regard to the old. As we have learned during this conference, China is now busy studying at many levels of government the various approaches for meeting this challenge. And I am sure that in the not too distant future, China will again attract world-wide attention when it announces its new programs and policies for the aged of the country. So many people have observed to me during the past few days that this conference could not come at a better time. I agree.

Hopefully the papers and discussions this week will contribute to the important policymaking discussions now underway in China. And it is my hope that the leadership China has provided in co-sponsoring and hosting this conference will serve as an example to other developing countries --

encouraging them to give more attention to the issues of social and economic support for the aged within the development process.

Now with regard to the conference itself, it could not have taken place without the hard work and good will of all of you here and the support staffs at your respective institutions. I wish, however, to mention by name four people. Each played a key roll at times when it looked like we might have to give up. First, Professor Chow Wing Sun.

Many of you know how difficult it is to get seats on planes into China at this time of year, the tourist season. Less than one month ago, I was faced with the problem that nine delegates to this conference did not have plane reservations. Everyone I consulted about this problem did not have an answer. Finally, the China Travel Service advised me that this problem could be solved only by discussing it with the airline company in Hong Kong. Professor Chow, at my request, undertook the difficult task of getting the additional reservations. Without his help, I think there would not have been a conference. Therefore, on behalf of all participants I wish to express our thanks to him.

The second person I wish to thank is Professor Davis-Friedmann. Her knowledge about China and her research experience in China were invaluable when planning the conference. Many times when I felt overwhelmed by the problems, she offered her assistance. And, finally, during the busiest time of year at her university, she coordinated the job of translating and preparing summaries of the papers for this conference. I am sure you all join with me in expressing our appreciation to her.

Third, I am extremely grateful to Professor Zhu Chuanyi of the Chinese Academy of Social Sciences. It was his encouragement and help during a visit to my university, Brandeis University, that resulted in the initial conference proposal being transmitted to China. And his advice and help over the years has been of key importance in moving the conference planning forward. Professor Zhu has many titles and many accomplishments to his credit. I would like to add another title. He is indeed the "great facilitator." As the secretariat of CNCA knows so well, Professor Zhu recently prevented a major crisis that threatened the conference in its final stages of planning. So I ask this conference to join me in thanking my good friend, Professor Zhu Chuanyi.

Finally, I would like to acknowledge at this time the great leadership of the Secretary-General of this conference, Mr. Wu Yuanjin. The China National Committee on Aging is a very young organization. It is a great achievement that this new organization was willing to take on the task of hosting a major international conference.

Quite frankly, I was worried that we were placing too great a burden on the new CNCA. But when I visited Beijing one year ago to discuss details for the conference, my confidence was restored after meeting Mr. Wu. His capacities, dedication, and warm personality assured me that the future of the conference was bright. Now we have reached the end of our endeavors and have seen with our own eyes the achievements of the CNCA in providing administrative and logistical support for this conference. I am sure you all join me in expressing thanks to Mr. Wu. We salute you, Mr. Secretary-General.

And now I turn to the conference itself. I have been given the task of making some summary and concluding comments. In responding to this challenge, I wish to begin with a statement by Vice Chairman, Professor Zhou Gucheng. In addressing this conference, he said: "As the number of elderly is increasing and the population is aging, it becomes a matter of paramount importance to forecast demographic trends and the major impact these changes will have on socio-economic development. By doing this, we will be able to put forward and implement appropriate policy measures as early as possible."

With these words opening the conference, Vice Chairman Zhou has accurately and concisely summarized the challenge before this conference and the challenges facing our respective nations.

His words emphasize three important points: first, the paramount need to do research to determine what changes are occurring, how rapidly they are occurring, and how these changes will affect the situation in the future. Second, his words sound a note of warning; we must guard against the possible negative impacts of aging on socio-economic development. And, third, we must act now to understand the changes occurring so that we can plan and implement satisfactory policies and programs as soon as possible.

The Vice Chairman charged the conference and our respective nations with major undertakings. I cannot summarize all the information and conclusions of this conference. But I will try to remind you of some significant points that have been made.

To help orient the discussion and provide a background, many papers provided us with detailed information on the demographic situation (past, present, and future) in various countries. The papers by Professors Davis-Friedmann and Cantor review the situation in the United States. The papers by Zhang and Chen, Professor Wu Changping, Professor Jersey Liang, and Wu Yuanjing provide detailed information for China. The paper by Professor Wongsith provides data for Thailand. And the paper by Professor Hashimoto discusses the aging situation in Japan and the social support network evolving in that country.

The keynote addresses by Secretary-General Wu and myself (reproduced in Parts II and IV, respectively) raise the issue of the potential burden arising from these changing demographic situations. The Wu paper focuses on China and its changing dependency ratios. The Schulz paper focuses on the "welfare states" of the West and the changing financial costs of social security. Both papers present evidence that the problem is not so much a problem of demographics or excessive spending on the needs of the elderly; rather, the problem is one of economic growth and sustained employment. For example, note the dependency ratio statistics for China presented in Mr. Wu's paper. The total dependency ratios for China are projected to remain below the peak reached in 1982 until the year 2040. Thereafter the ratio is projected to be only slightly higher than in 1982.

We know that in all countries the burden of dependency is typically highest in young populations with high birth rates. So we must remember, as Professor Wu Changping stressed in his paper, that as the percent of the population which is aged rises, this does not mean the burden on the working population is necessarily greater. Rather what many papers given at the conference stressed -- e.g., the papers by Wei Hengchang, and Wu Changping -- are the differences in the rates of aging occurring between the urban and rural areas and the differences in formal services and economic resources available in the two places.

In contrast, it should be stressed that the differences are less than the similarities with regard to the role of families in rural versus urban areas. And, I would argue, the conference papers show that the similarities are greater than the differences between developed and developing countries.

Reading the papers by Professors Davis-Friedmann and Cantor about family roles in the United States, I was struck by the similarities to China. If I were listening to these American papers over the radio in China and if country names were not given, the general descriptions presented might be easily accepted as describing the situation in China today (or some other developing country). We need to recognize that the similarities are so very great in the types and amounts of social supports given by families. Often officials and scholars in developing countries think the aged in many industrialized nations have been abandoned by their children. This is not the case, as the research cited by Davis-Friedmann and Cantor make clear.

What is significantly different, however, is the economic status and, therefore, the economic independence of older people in developing versus developed countries. And also, as a direct result of these economic differences, there are major differences in the typical living arrangements of the aged in the two types of countries.

Valuable information was given at the conference on living arrangements in China. However, there was diversity in the statistics reported. Professor Yuan Fang's paper reported that 43 percent of the elderly live with unmarried children in Tianjin.[1] The papers by Hu, Wang, and Zhang and by Yuan Jihui report even higher figures for the elderly living with either married or unmarried children in Tienjin and Shanghai (77 percent and 80 percent, respectively). Moreover, it is interesting to contrast these statistics with the data reported by Professor Chow Wing Sun for Singapore, Hong Kong, Korea, and Taiwan.

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[1] Including married children, the percentage rises to a little over 70 percent.

Many developing countries are reluctant to admit that there has been a rapid growth of nuclear families. To me, government officials and many academics in these countries are like the proverbial ostrich with its head in the sand. The China papers at this conference, in contrast, acknowledge openly the changes taking place. Only by such candor can we heed Vice Chairman Zhou's admonition to prepare policies and programs for the family situation's of the future.

Some people from developing countries might be surprised to learn that in industrialized countries where nuclear families are predominant, there are such strong ties between young and old. In the words of Professor Cantor, what we see is "intimacy at a distance," with families providing the major source of care for the frail elderly.

What we have found in industrialized countries is that children, when freed from major responsibility for providing economic security and housing for their parents, reach out in many other ways. We find that both the young and the old in overwhelming numbers are ready to come to the aid of their kin in times of trouble.

Of course, we are reminded in the papers by Professors Yuan Fang and Chow Wing-sun that many elderly in fact are losing status in society -- especially if they have no independent income and live in urban areas. The experience in the West suggests, however, that this may merely be a transitional phase. In the West, the status and roles of older people have changed over time, but few gerontologists would argue that overall the current status of the aged in industrialized countries is exceptionally low or that there are few meaningful ways for them to participate in the activities of the society. In part this result arises from the new and improved financial independence of most older people in the West.

Four papers at the conference look in detail at the experience in various countries of providing old-age benefits through collective, public programs. These papers assess the impact of such programs -- Professor Holden's paper on fertility, Professor Myles' paper on individual security in the West, Professors Jefferson and Petri's paper on household behavior and macroeconomic factors, and Professor Dixon's paper on the provident fund alternative to social insurance in the Third World.

These papers point out potential and actual accomplishments of these programs. While Professor Holden was forced to remain ambivalent regarding the contribution of social security to population planning, Professor Myles makes a strong argument for the compatibility of social security with economic development and the modernization process.

Professor Lei Jeiqiong's paper describes current support mechanism in China, and Professor Zhu Chuanyi reports on the rapidly changing support network in China's rural areas. Both Professor Zhu and Professor Yuan Jihui discuss the difficulties that arise in providing formal social security programs in the rural areas. Both called for an expansion of a fourth pillar of non-government, voluntary organizations to supplement the traditional "three pillars" in China. In this regard, the scholars from abroad were especially interested in learning about the new social welfare "foundations" being created in China to help people who are in need.

The two papers by Professors Myles and Zhu brought to the attention of the conference a dilemma facing developing countries. Professor Zhu emphasized the necessity to rely on local initiatives in the rural areas. But Professor Myles emphasized the frequent financial incapacities of local units as a result of demographic and industrial shifts. Professor Yuan Jihui provides evidence of this latter concern by describing the financial plight of various production units in Shanghai.

Western countries during their earlier stages of development relied heavily on local support mechanisms, just as Professor Zhu argues is the necessity for China. But as Myles points out, western countries quickly shifted to targeted benefits under centralized, nationally-directed schemes. "Social assistance to the poor elderly was [eventually] integrated into a system of income security for the non-poor. The principle of universality meant all citizens now acquired income entitlements that were independent of market capacity."

Thus, it can be argued that the views of Professors Zhu and Myles are not too far apart. They represent different stages in the development of social protection schemes. Certainly, both agree that it is unrealistic to rely entirely on the family as development proceeds.

Another debate regarding social security centers around the question of workers' contributions. Professor Yuan Jihui argues that individual contributions on a widespread basis may not be immediately possible in China at this stage. But other conference papers -- such as the one by Jefferson and Petri -- emphasize that financial support for old age (i.e., the elderly's economic support) must come from the workers either directly or indirectly. The only question is how and by what mechanism. In their papers Schulz, in the case of social insurance, and Dixon, in the case of provident funds, argue that historically contributions by workers were key to building long-run political support for such schemes throughout the world.

Many papers presented at the conference made recommendations for future action. CNCA Vice-Chairman Wei Hengchang provided a thoughtful list of recommended actions. These recommendations were echoed by many others in the days that followed: media education, utilizing the talents of older people (as, for example, discussed by Mr. Zhou Yangcai), more research, creating administrative networks, and promoting international gerontological exchange. Regarding international exchange, Professor Wongsith described a major project being implemented in five countries of south-east Asia. This project is designed to provide information regarding the socio-economic consequences of aging in these countries.

Finally, I want to mention one problem that was repeatedly mentioned throughout the conference. That problem is the disadvantaged status of many older women. As we work to design programs in our various countries, we must be sensitive to this problem and to the difficulty of dealing with it.

Let me close now with the words of the Secretary-General of this meeting, Mr. Yu Guanghan. I am sure you will agree that his opening words to the conference appropriately speak for all of us as we leave this conference.

> We hope that the International Form on Aging will give further support to our work and research on aging and enable us to incorporate the experiences learned both from developed and developing countries and regions. At the same time, let us strengthen mutual understanding, learn from one another, establish intimate links, and promote friendship and cooperation in our future activities, so that we can make appropriate contributions to our common cause -- aging.

CLOSING SPEECH

Wu Yuanjin
Secretary General, Chinese National Committee on Aging

Mr. Chairman, Ladies, Gentlemen, and Comrades:

Just now, Mr. Schulz gave an excellent concluding report. His detailed review of the forum and his thorough comments on the papers are most impressive. I personally appreciate and admire his extraordinary abilities and am grateful for his devoted and exemplary commitment to this forum.

During the past three days of the Bejing International Forum on Aging under Sino-US co-sponsorship, all the participating scholars and experts devoted themselves to intense discussions and fully expressed their views and suggestions. Through questioning and answers given in a cooperative atmosphere, all of the papers were discussed and defended. The papers and discussions covered a variety of issues and are of great value. It seems to me that all the participants have benefited and learned a great deal from the forum.

.... More importantly, the forum has promoted friendship, enhanced mutual understanding, and forged new ties. It satisfied every participant. I hope that in the future we can continue to keep in touch and work cooperatively on the issues of aging .

The success of this forum is the outcome of the efforts of all the participating scholars and experts and the support of the Gerontological Society of America. In particular, I would like to express deep appreciation to Mr. Schulz, Mr. Lawton, Ms. Davis-Friedmann, and Mr. Wing Sung Chow for the efforts they have made for this forum.

In order to make available the results of the studies presented in this forum to as many people as possible, I suggest that the papers be printed in both English and Chinese as a reference for every Chinese or foreign reader interested in the issue of aging. I have discussed this with Mr. Schulz, and we have agreed that the English version will be compiled and published in the US, and the Chinese version will be compiled and published in China. Every participant of the Forum will be provided with a copy in either Chinese or English or, at request, with both versions. I gather there would be no objection to this. (pause) If this is so, this matter is settled.

Now I announce the successful close of the Beijing International Forum on Aging. (warm applause)

My best wishes to all the participating scholars, experts, ladies and gentlemen.

Have a pleasant journey.

Thank you.